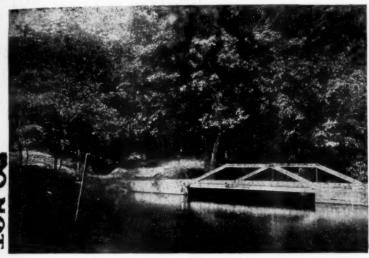
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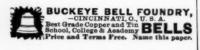
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The Social Function of U.S. History.

By Prof. John Bach McMaster, University of Pennsylvania.

(From advanced sheets of the Fourth Year Book of the National Herbart Society.)

On the principle that a shoemaker should stick to his last, my remarks will be confined to the history of our own country.

This history is commonly divided into a series of periods, during each of which events of a particular kind so predominated as to give a distinct characteristic; as, the period of discovery and exploration; the period of settlement and occupation; the period of struggle for supremacy between the colonizers ending in the dominance of the English race; the period of struggle of the English colonies for the rights of self-government; the war for independence when no other means of securing these rights remained; and the long struggle for a government ending with the establishment of the different state and federal constitutions. This may be regarded as the close of the first series of historical periods. An epoch has occurred, a new nation, a new political organization, has been added to the family of nations. The United States of America is permanently established.

Looking back over this series of periods it is quite apparent that in some of them the acts of individual men, and in others of small bodies of men, predominate. This is especially true of the periods of discovery and exploration, occupation and settlement, which have in consequence been described entirely from a biographical point of view. The early history of our country as usually told is little more than a narrative of the exploits of Columbus, Ponce de Leon, De Soto, Champlain, Marquette, Joliet, La Salle, John Smith, and a host of other men who stand out as discovers and explorers. As definite information of their doings could not always be had, or when attainable was too dry or too meaningless for the use of early historians, every attractive incident of a personal kind has been seized on and raised to the dignity of national history, and because they are picturesque, have been given undue importance to the exclusion of what is really essential.

The economic and industrial condition of Europe, which was the direct cause of the period of discovery; the fact that America was never sought, but stumbled on; that when found it was not wanted; that much

of its exploration was due to a persistent effort to a way around it, to discover a northwest or a southwest passage to India, are lost sight of in the account of the doings of particular men. It is true that a history of these early times must be largely biographical; that the period was pre-eminently one of adventure; that beyond the incidents furnished by these adventures the material is scant, yet they ought to be subordinated to what is really of historical importance. The motive for discovery; the effect of discovery on the geographical ideas of the time; the reasons why the four great maritime powers of Europe came into possession of our country; why the Dutch acquired the Hudson, why the Spaniards occupied our Gulf coast, the English the Atlantic coast, and the French the Great Lakes and the Mississippi, and the profound and lasting influence this particular arrangement of European settlers had on our later history,—these are the things it concerns us to know, rather than the doings of particular men and the Indian wars of particular colonies.

A knowledge of the industrial and economic condition of Europe and Great Britain, again, is necessary to a correct understanding of the period of colonization, what drove the settlers to Jamestown and Quebec, what sort of people they were, what customs, usages, institutions, political ideas they brought and planted in the new world, is all-important. These are the things which determined the future of the state far more than the character of any man. Yet the early history of the colonies is too often a story of Indian wars, religious disputes and biographical incident. The knowledge of these times which many a child carries away with him from school consists of the stories of the rescue of Smith by Pocahontas; of Endicott cutting the cross from the flag; of Bradford sending to Canonicus the snake skin stuffed with powder and ball; of Penn buying land from the Indians; of King Philip's war; of Roger Williams driven into exile; of the Salem witch-burnings, and of Bacon's so-called rebellion. The steady movement of the English westward from the Atlantic; the spread of the French into the valley of the Mississippi and their occupation of it to the head waters of the Ohio; the great difference in the manner of occupation by these two peoples, the French building forts and taking military occupation, the English building towns, opening up farms and taking possession by actual settlement, the effect this difference had on the long struggle for possession, are rarely if ever presented to the school boy. That great struggle between the French and the English for the possession of the continent is generally presented as a series of detached wars under such unmeaning names as King William's war, Queen Anne's war, King George's war. As

records of burnings, slaughterings, massacres, Indian atrocities, they are simply horrid, and deserve very little place in our colonial history. Their true significance as steps leading up inevitably to a great struggle is the only justification for their mention.

So far in our struggle for independence, the military and naval story has been told over and over again till every American worthy of the name knows by heart the list of battles and the names of the great soldiers, sailors, and statesmen. But where shall we turn for an account of the doings and sufferings of the American people during that struggle? To represent the Stamp Tax as the cause of the rebellion of the colonies is to falsify history. To represent Great Britain as a tyrant is to falsify history. Our forefathers rebelled because they had ceased to be English; because they had become a distinct and separate people; because they could no longer live under the English system of government; because they must have a government of their own making, embodying their own ideas. Yet the economical, the industrial, the political conditions which slowly but surely brought this about are passed over in silence, and the whole history of a hundred years of colonial life is misrepresented. Great Britain is held up in our school books as a tyrant and the school boy is taught to hate the only people on the face of the earth to whom we are bound by ties of race, by ties of language, customs, institutions, the only people with whom it is possible for us to ever form a real and lasting alliance.

The establishment of our state and federal governments again cannot be understood without a knowledge of the life of the people. Where did we get the idea of a written constitution? What is the meaning and purpose of such a document? The federal constitution in particular is the only embodiment of the industrial and economic experience of the people. The old confederation went to pieces because each state had power to coin money, to issue bills of credit and make paper money legal tender; to regulate foreign trade and inter-state trade; because Congress had no power to enforce obedience to its ordinances. The provisions, therefore, that Congress shall have sole power to regulate trade between the states and with foreign nations; that all laws shall be uniform throughout the Union; that no state shall coin money, or issue bills of credit, or make anything but gold or silver a legal tender, are the direct result of a bitter industrial experience. The constitution was not, as Mr. Gladstone says, "struck out," "in a given time." It grew out of business conditions; it was a business necessity; it was the product of the experience and daily life of a thoroughly practical people, and cannot be understood without a knowledge of that expe-

With the adoption of the constitution we began our career as a nation, a career which is without a parallel in the world's history, and is to us a source of just pride and satisfaction. No American would ever seek to dull the luster of our military and naval annals, to forget the names of the men who led us to victory on land and sea, or cease to draw lessons of patriotism and devotion to our country from the story of

heroism and sacrifice made by the tens of thousands of men who laid down their lives that we might be what we are. The names and deeds of Greene and Gates and Lincoln and Knox, Paul Jones and Hull and Bainbridge and Decatur and Truxton, should be as familiar to every American boy as those of Washington and Jefferson. But he should be distinctly given to understand that the lives and deeds of the heroes of war do not comprise, but are comprised in the history of the United States.

From the moment the period is reached when our countrymen obtained a stable form of government, from the moment when the constitution became the supreme law of the land, our national history should be presented to the student as the growth and development of a marvelous people. He should see our country as it was when Washington was first inaugurated, a country vast in extent with its people gathered on a narrow strip along the seaboard and just beginning their great march westward; he should see them destitute of manufactures, of machines, of great industries, of easy and rapid means of communication; he should see the arts and sciences in a rudimentary state, and he should see the differences in habits, customs, occupations which were peculiar to the people of the Eastern states, the Middle states, and the South. The attention of the student should be called to the fact that innumerable trades, occupations, industries, professions, callings that now afford a livelihood to millions of people had then no existence; that articles and conveniences with which he is perfectly familiar and which have come to be looked on as necessities of life were then unknown, and that the lot of every man in every walk of life

was far harder than at present. When this condition has been shown and understood, the boy should follow. step by step the won-Heshould derful progress from what was to what is. see our people hurrying westward in three great streams, pushing the frontier before them across the Mississippi valley, across the Mississippi river, over the great plains to the Pacific, building cities, founding states, developing the resources of our country. He should see the northern stream engaged in a thousand forms of diversified industry, and the southern stream ignoring commerce and manufactures and devoting its energy to growing cotten and tobacco; and he should be made to see how from these two opposite economic conditions grew in time two separate and distinct peoples, with utterly different ideas, institutions, customs, and purposes in life, and when this has been made clear to him he will understand the Civil war. To present such a history in slices four years thick and labeled with the names of presidents, or as a dry record of Congress and the doings of the political leaders of the hour is to destroy its meaning and make it valueless. To tell a child that Fulton invented the steamboat, Howe the sewing machine, Morse the telegraph, Goodyear vulcanized India rubber, Hoe the steam printing press, Bell the telephone, is idle if the story stops there. to be impressed on him is that these great inventions and discoveries, and the leading inventions and discoveries of the nineteenth century, have bettered the condition of civilized man everywhere and are contributions to human welfare made by America. are a people animated by the highest and noblest ideals of humanity, of the rights of man, and no history of our country is rightly taught which does not set this forth. Above all it should be so taught as to destroy that baneful belief that we have degenerated from our forefathers. There is no land where the people are so prosperous, so happy, so intelligent, so bent on doing what is just and right as the people of the United States.

Out-Door Science.*

By Frederick A. Vogt, Principal Central High School, Buffalo.

The first step to take in teaching science to young people and in popularizing the study among older people is to throw away much of the traditional polysyllabic phraseology and use a little common sense and good old Anglo-Saxon now and then—to teach nature, instead of science.

There is not only great danger in being too technical, but in telling too much. We all like to talk on our pet subjects. We rattle along, airing our opinions and pouring out big volumes of knowledge, and expect the poor pupils, like great dry sponges, to absorb the gracious gift. But they don't absorb; it isn't their business; they belong to quite another sub-kingdom; and while we are just about to congratulate ourselves on our facility of expression and wise beneficence, we are rudely made aware that our eloquence was all lost; and, worse still, we have been guilty of repression, of stifling natural curiosity, and crushing what might become a priceless, enquiring, intellectual habit.

Is it any wonder that so few ever go on with their geology, mineralogy, botany, or zoölogy, after they leave school? What is our object as teachers? Is it to cram geology and botany down passive throats in one or two school terms, or is it to lead our students so gently and awaken so keen a desire that they shall study these sciences all their lives, to be a neverending joy, a pure pleasure and a solace amid coming cares and darkening days? Oh, I, too, have been guilty, and may heaven forgive my exceeding foolishness. The remainder of my days are being spent in penance, in propitiating the office of the recording angel by a more humble and righteous way of life.

So much for the language of the teacher, and now for the means of giving reality to his teaching efforts. This can only be done by the laboratory method or investigation in the field. With the latter, out-door work, only, does this paper especially treat

ACTUAL CONTACT WITH NATURE.

While I do not for a moment decry the use of books, either for collateral reading or for text-books,, in fact, I plead for a wider reading and profounder study of the best scientific writers; still, I feel just as you must feel; that there is something radically wrong in much of our science teaching, and that we have come to regard books as more real than the earth, the sky, the rocks, the plants, and the animals, which are all about us.

Just why this is so, I am unable to understand. Nature is so lavish! On all sides, easy of access, are the phenomena and the realities, while the school-room is artificial, and the teacher, alas, in perfect keeping with the school-room.

Can it be that pupils are averse to actual contact with nature? Not at all. From the earliest childhood throughout life there is, in most persons, a remarkable turn toward curious investigation, and thorough understanding of the things of nature. That I know from my own experience while teaching in the grammar schools.

One day I asked the pupils to bring me in any specimens of stones they might find in the vacant lots and the fields; and then I promised to give them a talk about these stones. I expected, perhaps twenty or thirty specimens. What was my amazement and secret horror when, the next day and the next, came dozens and dozens of specimens, until, in a few days, I had over a ton and a half, containing 3,000 specimens. There were granites, gneisses, and schists, and quartzes; there were sandstones, slates, shales, limestones, glacial scratchings, marbles, and onyx; there were geodes, crystals, ores, stone hammers, arrow-heads, brickbats, furnace slag, and fossils. I took everything smilingly, and at night the janitor and I buried many duplicates and the useless stuff in a deep hole where they wouldn't be likely to get hold of it again.

We soon possessed an excellent cabinetful, and had fine times talking about the making of stones—the crust of the earth—former inhabitants, the great ice age, and such simple geology as they could understand; and they did understand: that did not end it. We studied plants in the same way; physics and chemistry, with home-made apparatus. Of course, it all took time, and a good deal of it; and there wasn't any extra pay for it, either; but there are labors whose recompense is far more precious than dollars and cents.

And so I find enthusiasm also for out-door science, among secondary pupils and among the great body of intelligent people of our cities; and if nature is so accessible, and pupils are so eager for its secrets, and we still worship books and ignore the visible objects, and forces so freely at our disposal, there is no other conclusion to arrive at, except that the teacher himself is either too ignorant or too indolent to make proper use of them. It takes time; it needs enthusiasm; it needs a genuine love for the subject in hand, and a profound interest in and sympathy with the student.

The subjects in which field work may be made very useful are geography, geology, botany, and zoôlogy, and the objects are, of course, apparent to all. First, it cultivates a familiarity with nature, which is wholesome and desirable. We are living in an artificial age. Children nowadays get too much pocket money; there is too much theater; too much smartness; too much flabbiness for the real business of life; too much blasé yawning; too many parties; too much attention to dress; the color of the necktie; the crease of the trousers, or the make of a gown. The only meaning science has for many of the richer classes is the curved ball of the pitcher, the maneuvers of the quarter back, or the manly art of self-defense, as exemplified in the tactics of Bob Fitzsimmons.

I know of nothing that will counteract the indifference of parents and lead the young mind back to a simpler and more humanizing condition of life than to make it familiar with old mother earth, the stream, the valley, the tree, the flower, and the bird.

CORRECT OBSERVATION.

Another object of field work is to train habits of correct observation. Pupils ordinarily take too much for granted. They will swallow anything that is printed in a book, or that the teacher may choose to tell, always providing the pupil is sufficiently awake to perform the function. It is hardly an exaggeration that they would believe the moon was made of green cheese, providing the statement came with august solemnity from the teacher's chair. There is too hasty generalization and a prevailing unwillingness to careful examination. Careful field work opens the eye and corrects much of this slovenly mode of thinking; creates honest doubt, and questions an unsupported statement. The pupil wants to see the pollen on the bee before he believes in cross-fertilization; he wants to see rocks actually in layers before he will believe they could have been deposited in water, and he pounds up a fragment of sandstone to get at the original sand; he wants to see the actual castings before he will believe all that Darwin says about his wonderful earthworms; and few things escape the eye of the pupils who go out with the understanding that it is business and their duty to observe and take notes.

THE THINGS THEMSELVES.

Another object of field study is to see life in its environment. Stuffed birds and animals in cases are all very good; Shells look pretty behind nice glass doors, and herbaria play a very important part; yet, after all, how much better to see a thrush's flight; to hear the pewee's song; how much more satisfactory to watch a snail creep and feed; how much more delightful to study the blossoming hepatica; to note its various leaves, its soil, its surroundings, and discover why it blooms at the very opening of springtime.

More can be learned from a handful of pebbles on the beach than a whole book written upon the same subject.

Yet another object is to acquire specific information not contained in books. The feel of a leaf, the odor of the honey-suckle, or the pine, the cry of the kingfisher, the locomotion of a horse, and the locomotion of a cow, the formation of miniature gorges in a rain storm, and the wearing of a shore under the action of the waves, these and countless other manifestations can never be described in mere words. The eye must see before the mind understands and believes.

^{*}Part of a paper read at the second annual meeting of the New York State Science Teachers' Association.

PUPILS' COLLECTIONS.

Then still another advantage is the opportunity of collecting specimens for the school and private collections. Pupils think infinitely more of specimens they themselves gathered than of great museums which some one else has filled. They will study their own and treasure them.

And it is far better to know all about a small collection than to have a vague, hazy, mysterious notion of a great one. It is far better for the pupil to know that he is actually capable of understanding a tiny bit of nature than to be haunted by the feeling that somehow all this world of things and life is not meant for his understanding.

INTEREST THE PRINCIPAL CONSIDERATION.

I believe it is wiser to give the student a taste of geology and a taste of botany and zoölogy than to limit him to the exhaustive study of just one science. Once acquiring a healthy appetite and means of satisfying that appetite, and he will go on with these keys and unlock the treasure-houses of nature for himself. We sometimes forget that we are training pupils for life's duties and life's happiness.

When I take a class in geology on a hunt for fossils, and we come across a bed, I don't insist on everlastingly calling the trilobite we may find Phacops latifrons or Isotoles gigas. We call them all trilobites. We find they were crustaceous; how they lived, in what kind of waters; and we have gotten something out of our study; but if we rolled as a sweet morsel under our tongue the Phacops latifons and Isotoles gigas, the pupils would forget them in ten minutes, and I wouldn't blame them.

Time enough later on for elaboration; one thing at a time. It is better to know a trilobite and a brachiopod than to know two polysyllabic species of either.

NEEDLESS PRETENSIONS.

A first-class way of killing a growing desire for scientific knowledge is to feed it on good strong doses of technical terminology; the process is quick and sure. The whole trouble lies in the fact that the teacher has forgotten that he himself was once young and came by his ponderous knowledge by slow degrees. I cannot see why some teachers imagine that they have a sort of ten-story intellect when they haven't, and when something not so wonderful would far better answer the purpose. They certainly do not impose upon the pupils, for anyone with half an eye can always size up the pupil's estimate of stately pretension.

GOOD TIMES OUT-OF-DOORS.

Another object that occurs to me, the last, and by no means the least, is to have a good time in the fresh air once a week.

To put on old clothes, carry your luncheon, and, after attending faithfully to business, collecting enough specimens, just have a jolly good time, and do as you please—fish, swim, loaf, climb trees, play games, build camp-fires, and be little children again in joyous freedom. This is not only highly desirable, but absolutely necessary; because boys, and especially girls, who have not been in the habit of roughing it, get very tired stooping and working, perhaps in the hot sun, and it is very important that a nice cool spot shall be selected for luncheon, and after that let them roam according to their own sweet will.

THE BUFFALO PLAN.

We are in Buffalo; well situated for excursions, and, for seventeen years, there has been organized what is known as the Buffalo Field Club, or the Society of Natural Sciences. The club was organized by the late Charles Linden, who had charge of the department of botany and geology in the Buffalo high school. Its members are made up of present pupils of the high school and its graduates and any other person who has a leaning toward science and a love for out-door work.

In the spring and autumn there are regularly-planned excursions for each Saturday, and during the winter we have semi-monthly meetings, at which a paper is read and discussed and scientific notes and observations compared. We, at times, have given complete and thorough courses in geology and botany, at which the attendance was often so large as to fill every seat in a room holding over 300. In our geology courses, we give to each student specimens in hand, three or

four sometimes, like sandstone, limestone, granite, and other common but interesting rocks. The museums of the Society of Natural Sciences is also at our disposal.

In botany, we get ready a goodly supply of peas, beans, and other common seeds in various stages of sprouting, and these, too, are passed around in the little wooden trays grocers use in doing up butter. Then we have buds, roots, sections of trees, dried specimens of plants, and even simple chemical experiments, such as oxygen and caronic acid gas, lime water, etc., etc.

These appliances are reinforced by stereopticon slides. All this takes time? Well, I should say it does! and labor, too; but what are we living for?

We began this sort of popular lecture teaching about seven years ago. We didn't know how it would take. There used to be nothing but empty benches at some of the best meetings of the Mother Society of Natural Sciences, and when some of the older members dropped around that first night to give us a bit of encouragement, in what seemed to them a hopeless task, they found the place packed to the doors. Some of them were, no doubt, scandalized by the simple Anglo-Saxon language which profaned those holy precincts, but that night, and every night thereafter, settled one thing; that was the fact that the people are interested in science, and that they will come if the matter can be divested of its ridiculous and befogging pretensions. And be it understood the subject in hand and the great truths of science suffered the abatement of not one jot or tittle of their nobility, their grand, and their inspiring simplicity.

A complete course in mineralogy has just been closed. And in January we begin a course in geology, in zoölogy, and in botany, given now under the auspices of the Society of Natural Sciences, but by members of the Field Club. Oh, we're cranks on this subject up in Buffalo.

And all this is not only a review of the field work, but inspires others with a desire to join the club and go with us on the excursions. I myself have taken as many as one hundred teachers on geology excursions to quarries and to natural out-crops. If you ever want to see a lot of school ma'ains get really enthusiastic, and eager to climb fences and knock up stones with their hammers, just take them on a geology excursion. A matinée or a five-o'clock tea pales before it, because the ladies can talk just as much and as fast in the field as in the house, with the added satisfaction, that at the close they have at least learned something, and had a real healthful, unconventional pleasure besides.

In the high school, it is an understood thing that each pupil in the out-door sciences shall make at least six excursions. You might as well attempt to set aside the laws of the Medes and Persians as to study geology or botany at Buffalo high school without field work. There are regularly-planned field excursions, which I or my assistants take charge of If, on account of expense or hindrance at home, the pupil cannot go with us, or stay all day, an excursion must be made somewhere by trolley—to the river, park, an open trench, or only into the back yard; but somewhere the pupil must go with notebook to observe, study, and to report. But the localities we visit are so rich, and withal usually so attractive, that, in my experience, less than one per cent. failed to attend. We always secure very low rates on the railroads.

The pupils like to go and want to go. I have had graduates come again and again who affirmed that the best study they ever had was geology, and the finest times of their school year were the Saturday excursions. You get to know your students better in the field, and as to its taking too much time, I say it pays not only the teacher ten fold, but does a wonderful lot for the student.

I taught geology and went on excursions every Saturday, and yet had the management of a high school, with over 2,000 pupils. My class-room work and the excursions were the only fun, besides my salary, that I ever got out of my work. It is time well afforded; you yourself will renew your youth, and you are inculcating a habit in your students that is healthful, pure, ennobling; you are giving them that which will make a trip to the mountains, to the seashore of infinitely more value that it ever can be to the hordes of unfortunate who kill time, lolling on hotel verandas, or who yawn on the beach. A

simple walk along a country road or over a field will be a beautiful picture gallery or wonderful museum, the catalogue of which will be in the heart of your former student.

This excursion is a good thing for the rest of the school who have little taste for science. It gets them out, and we have now regularly our semi-annual excursion to Lewiston, walking along the gorge from Niagara Falls.

Last spring I had the pleasure of heading a party of 636 old and young people who took the trip. It was not purely a science excursion, but hundreds saw the falls, the rapids, the wonderful gorge, and the whirlpool who would never have gone there in the world, except under the stimulus of a party. It is safe to say that at least fifty per cent. have a clearer idea of the formation of the gorge, and all of them have been benefited by the picturesque walk.

In planning our class excursions, we try to arrange matters so that the botanists, geologists, and zoölogists can all go together. As, for instance, the early part of May is excellent for West Falls or Eighteen Mile Creek, while Lewiston comes a bit later. It is not always possible, however, to combine the classes. In any case, the schedule of excursions must be carefully planned, in order to get the bêst results.

For geology, that is not necessary; but it is desirable to begin with examples in dynamical geology; then structure and fossils; but that is the simplest matter of all. Any locality embraces scores of interesting facts, and these the pupils are directed to observe and jot down for a future report.

Every pupi! is required to make a collection of at least thirty different rocks and fossils during the term. Pupils get much more than that, but as we give only one term to geology, and that includes laboratory work on thirty-three other rocks and minerals, it is unwise to make the study a burden.

I never require a book lesson the school day following on an excursion, because I want the pupils to feel perfectly free from anxiety, to rest from any physical fatigue, and to study the collection they have made. The report is not due for several days, so we just spend the hour in talking about the excursion. It may sometimes be wise not to meet at all, since a whole day was given up already. One must always remember that everything can be overdone, and that the pupil has other studies besides out-door science.

THE MANAGEMENT OF SCHOOL EXCURSIONS.

The conduct of the excursion must be understood to be in your own hands, and that you are master, and you must be obeyed without question; otherwise, parents may have a perfect right to refuse their sons and daughters to your care. Of course, there will always be one or two silly persons. There will be that excruciatingly facetious chap who wears a girl's hat, and doesn't think you meant what you said, when you forbade any one to cross the high railway trestle. But he finds out, and is combed down to the queen's taste in short order. On the whole, it is singular how orderly and earnest an excursion party can be.

An excursion would lose much of its value unless observations were noted, drawings made, and specimens collected and exhibited in the class-room. The pupil should handle the specimens himself, and be made to describe what he sees. Here, again, is the great danger that the teacher will tell too much. It is amazing to find how much one can draw out of pupils by simply keeping at it. They are not fools, at all. Make them tell why this piece of sandstone is gray and that red; why the stream was so winding, and what formed the bar and the sand soit at its mouth.

Now, all this field work can be gotten out of secondary pupils, and as far as we are concerned in Buffalo, no one has ever questioned our right to demand it.

THE QUESTION OF EXPENSE.

Of its value, there is not a shadow of a doubt, in my mind; the results are eminently satisfactory. I believe it is practicable for any class in secondary schools to make at least six field excursions. They need not always occupy the whole day, and they can be made for less than \$2.50, all told. In country schools, this would be far less, and even without spending a cent. So while it may happen that some schools may lack

that physical apparatus spoken of yesterday, they may have the best and cheapest facilities for out-door sciences.

It is surprising to find the entire absence of complaint on account of expense. The parents, no doubt, are satisfied and pleased with the account given of the trips. And should there be a pupil who cannot afford the expense, a little tact on the part of the teacher will soon arrange something satisfactory.

I believe it is satisfactory, then, to make at least six excursions as a class each term; out-door work and observation need and must not be limited simply to spring and autumn. Individual excursions should be encouraged and collateral reading recommended for all, of which due credit should be given. There is always something to be observed at all times which has an important bearing on geography, geology, botany, and zoölogy, and there is much side reading, and many beautiful tales and myths in prose and poetry, all connected with these subjects.

WINTER WORK.

In December, a weather record may be kept, prevailing winds noted, and the cloud-forms recorded; amount of sediment carried by streams, etc.; the snowflakes, form, size, and consistency noted; frost, ice, effect on window-panes, rocks, and earth; the spruces, pines, hemlocks, hollies, and all the fruits and berries.

Aquariums can be made, and seeds sprouted.

Fish and shell fish are abundant.

The stars and the planets are usually bright on clear, frosty nights, and no one is too old, or ought to be too old, to read the myths and the poems on the constellations, on the months, the seasons, the snow, on plants like the fir, the mistletoe, and others.

Such authors as Hawthorne, Emerson, Longfellow, Bryant, Whittier, Andersen (fairy tales), Lowell, Burroughs, Alice Cary, Lucy Larcom, Mrs. Dodge, and a host of others, have written beautiful things on out-door nature.

HELPFUL BOOKS.

There are books, perhaps not all suited to secondary pupils, but which contain most valuable suggestions for the busy teacher. I will give some that have all come out within recent time:

There is Jackman, always good; the bird books; Murché science readers; "The All-the-Year-Round Readers," by Frances L. Strong; "Flowers and Their Friends and Seed Babies," by Margaret W. Morley; "Plants and Their Children," by Mrs. William Starr Dana, and that most excellent book by Mrs. L. L. Wilson, called "Nature Study in Elementary Schools." The latter book gives outlines, synopses, and valuable lists of the myths, poetry, and stories.

It is true that most of these books are written for pupils and teachers below the high school, but everything is fish that comes into the net of a wise and wide-awake high school teacher.

No one is too old to be too scientific to enjoy the "Chambered Nautilus," Tennyson's "Brook," "The Legend of the Woodpecker," "The Daffodils," of Wordsworth, Emerson's "Legend of the Spring Beauty," and hundreds of similar productions, full of the spicy flavor of open-air life. Talk about abandoning the humanities for pure science! Why not bring about a happy marriage between the two, and live happily ever after?

And so I could continue, and make the round of the year, but my time is probably more than up, as this was to be a short paper.

I cannot believe that so important a branch of science work as field study is neglected. If it is neglected, the person having the class in charge is either ignorant of the pleasure and the great profit derived from such work, or else not in sympathy with the work. For who can look about him, see all the phenomena and facts of nature, all their deep meaning, feel all the profound emotion which stirs the deepest and purest sensations in the human breast and not rejoice in the fact that it his great privilege to be a teacher, and to lead young minds to a fuller realization of the works of God?

Collecting Insects for School-Room Use

By Aileen Henry, Kentucky.

What material can we gather in our outings in the country, on the mountains, or by the sea, that will be really useful to us in our school-rooms?

Each teacher must answer this question for herself; and the answers will necessarily be as varied as the teachers, or as the places they have visited.

I expect each one of us remembers how enthusiastically she brought home, last fall, almost a trunkload of material for nature study; and we would hardly like to acknowledge, even to ourselves, how worthless much of it proved to be, when we had stopped dreaming and theorizing and went practically to work.

The Kentucky teachers, who spent a week together on a farm which was rich in the material we most longed for and needed. believe that we have found an answer to a part of this question -the part which experience had proved that we were most deficient in, and which this place was so well fitted to give. We remembered the many times we had been confronted with our lack of knowledge, when, in readers, and spelling-books, and language lessons, some tiny, insignificant insect, almost unknown to us, was discussed; we remembered how interested class and teachers became in studying the wonderful things this humming, whirring insect life does for us; helping in some forms, harming, in others. So, equipped with small boxes, cardboard, pins, gasoline, and butterfly nets, we haunted the banks of a stagnant pond, over which dragon flies darted, and butterflies fluttered, and moths hovered, and hundreds of winged things buzzed. And when any one of them was at last entangled in the depths of the net, how carefully we transferred it to a tin box, and, with a few drops of gasoline poured over his body, ended his life. On the long leaves of the flags which grew in the pond we found many of the cast-off, outgrown coverings of insects, each so like its former tenant as to be easily identified. Walking stiffly over the water were rheumatic-looking "walking-sticks;" and darting on its surface were curious elliptical black water bugs.

When we had exhausted the capacity of our boxes, or our own endurance (more frequently the latter), we would examine and study each specimen while we rested for another chase, using as guides in our study, books which were not filled with unpronounceable names for every tiny member of an insect's body, but, such as told of its life and habits in such a simple and instructive way that it appeared easy to know personally each little animal described.

The pond was not our only source of information and interest. Each tree, shrub, or plant furnished additions to our daily-increasing collection of "out-door housekeepers." For days we watched a large black-and-gold spider, who went on calmly with her geometry, practically demonstrating many propositions with the web she was making on a solanum which grew on the front wall between two windows. We were loath to end her engineering, but the sleepy-looking Arachne had lured so many innocent insect victims to their death that when our time came to leave, we felt that we were benefiting the invertebrate world by making her a member of our cabinet.

Do you remember "grand-daddy-long-legs," who was able to point in the exact direction the cows had strayed, and the "hopper-grass," whose wings are like delicately-veined, green leaves, and the awkward, uncanny "devil's-racehorse"? We have renewed and enlarged our childish acquaintance with each, and find them more wonderful than our memory pictured them.

Our collection includes other things, of which we had a very wholesome fear, and therefore little knowledge in former days, but with the assistance of the tin box and gasoline bottle we can now examine, at our leisure, the bees, and wasps, and hornets, and find out, painlessly, where they keep their stings. Our hornet was captured while carrying off a locust, twice its size, which he had stung to death. They now rest side by side in our little cabinet.

We do not intend to use these specimens until the dark, gloomy days of winter have come, and after flowers and leaves have bidden us "good-bye." Then, when it is cheerless outdoors, and little folks are listless or restless within, perhaps we will hold up before their eyes a glorious, yellow butterfly, and

let the card on which he rests, and the little magnifying-glass be passed from hand to hand, while we tell about the beautiful meadow in which he lived, and the early golden-rod on which he rested.

And then we will open our readers to the story of the wonderful worm that spins his own shroud, and, after a long sleep, comes forth from it—a butterfly!

I think there will be a little sunshine in the room then, don't

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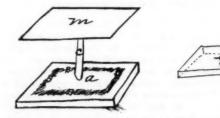
A Device for Studying Ants.

By Frank O. Payne.

Some insects need only to be inclosed by a framework, covered with netting. The grasshopper and cricket may be confined in this way. But some require special treatment, and it is of this special treatment that this article deals:

I. Ants: To study ants at work, to see them carrying their loads, and stopping now and then to converse with one another by means of interlacing their antennæ, to see them performing their toilets; these are among the most delightful and interesting things which the observer can see.

But ants, to be studied to advantage, must be given surroundings as nearly like nature as possible. To do this, let the following apparatus be made: Procure a piece of two-inch plank about 10 by 12 inches (a), and with a chisel, dig out a channel around the outside (b), one inch in from the edge, and about an inch deep. To the center, fasten an upright (c), and upon the top of the upright, nail a square piece of half-inch board (m), about 8 by 10 inches. Now take two panes of glass 6 by 8 inches (g), and glue them together, placing a layer of cork or thin wood 1/4 inch thick all around their edges, and filling the place between the panes with damp sand. Leave only one small opening in the cork border, where ants can enter and exit. Thus you will have made a box of sand having wooden or cork sides 1/4 inch thick, and glass top and bottom 6 by 8 inches, with a small aperature in the cork for a door. Place the glass box (g) upon (m), and fill the trench (b) with water. The apparatus is now ready for inhabitants.



Now go to the yard. Find a hill of large, black ants, and with a spade quickly dig it up and place earth, ants, and all on lower block (a), inside the trench (b) full of water. The ants will begin running here and there, and trying to escape; but coming to water on every side, they will soon begin to explore their prison. A little syrup smeared on the upright (c) will greatly facilitate their ascent to the upper plane (m). When all have reached the upper plane, remove the dirt from (a), and watch operations. A piece of thick paper or several layers of cloth should be spread over the glass (g), so as to exclude the light. After a time, the ants will realize their need of a home, and will begin to enter the space between the glasses and remove grains of sand. Care must be taken to keep the sand moist between the glass panes. This may be done by placing a saturated sponge at the little door; and capillarity will cause the water to enter and moisten the sand. After a time, the ants will form a complete series of halls, corridors, courts, and passages in the sand. Each part seems to have a special use. Thus, in one part will always be found the eggs and young ants; hence, this is the nursery. If the cover be removed, some ants will instantly seize the eggs, and hasten away, in search of a place of safety.

A few tiny crumbs of meat or cake, and a few grains of sugar is all the food needed for these busy, industrious creatures.

Keep the channel (b) well filled with water. By accident, our pupils let it dry out, and in a few hours not an ant remained.

Pressing and Preserving Leaves.

Pupils will enjoy pressing, drawing, or painting leaves. If pressed and pasted into a scrap-book, or upon separate sheets of paper, the outline can be placed below each leaf. The same thing can be done if leaves are drawn or painted.

TO PRESS LEAVES.

Place them between layers of newspaper, and subject to pressure, by placing books or other heavy articles on top. Continue the pressure for several days, turning the leaves each day, and changing the newspapers, if they appear moist. When pressed, the leaves may be coated with thin white varnish, applied with a brush. Another plan is to rub a paraffine candle over the surface of a hot iron, and then pass the iron quickly over the leaf. Either varnish or wax will give an ornamental finish. The leaves may be mounted upon sheets of paper, or in the scrap-book, with mucilage, or by sticking strips of courtplaster across the stem and tip.

The shapes of most leaves resemble the outline of some geometric figure, as an oval, triangle, or pentagon. Determine which of these figures will most nearly inclose the leaf to be drawn, and construct this figure of proper size in faint lines. Draw a vertical line through the center and a horizontal line at the greatest breadth of the leaf. Sketch carefully the outline of the leaf, allowing the longest projections to touch the figure. Erase the geometric figure, and add lines to represent

TO PAINT LEAVES.

Sketch the outline in the manner given above, and copy the colors from the natural leaf. In painting, care must be taken to cover up the lines. Chrome-yellow and Prussian blue, mixed in equal proportions. make green. The shade may be lightened by silver-white.

TO PRINT LEAVES.

Use printer's ink in black, green, or red. Make a pad by tying cotton-wool into a piece of satin, or other smooth material, and draw some of the cotton into a handle, sewing the cover around it. Spread a thin layer of ink upon glass, and ink the pad evenly by pressing it down several times. Put the leaf, face downward, upon a newspaper, and ink the wrong side with the pad. Then place the leaf, inked side downward, upon blank paper. Put over it a piece of paper, and rub gently with the fingers.

TO SKELETONIZE LEAVES.

Dissolve four ounces of washing soda in a quart of boiling water. Add two ounces of slaked lime, and boil for fifteen minutes. Cool, then pour off liquid into a clear pan. Boil again, then put in the leaves, and let them boil slowly for an hour, adding water to balance evaporation. Test, under cold water, whether the green pulp is loose; if not, boil a little longer. Then put leaves into cold water, and rub off the green pulp very carefully with the fingers. To bleach the leaves, use two teaspoonfuls of chloride of lime dissolved in a quart of water, with a few drops of vinegar. Leaves should remain in the solution until they look white, and then they should be washed in several waters, to get the lime out. Dry in blotting paper under slight pressure. Large leaves, as maple, chestnut, elm, are best skeletonized. September is the best month, when the leaves have attained full size and strength of framework.

School Room Aquaria.

By Lucy Wilson.

School aquaria properly cared for and intelligently used are not only objects of beauty, but also efficient aids in nature work. These are the essentials:

I, a glass globe or jar; 2, river sand; 3, water plants; 4, cold water; 5, light; 6, animals.

1. The size and shape of the aquarium is absolutely non-essential. A cylindrical vessel holding five gallons, worth about \$1.25, would be an excellent choice.

2. The sand must be thoroughly cleaned by repeated wash-

ings. There should be two inches of sand covering the bottom of a five-gallon tank, for which also two bunches of cabomba or myriophyllum will be sufficient plants.

3. The lead should be removed from the plants, and the leaves broken from the stem for an inch from the base. Plant securely in the sand, preferably in the two rear corners.

4. Cold, clear water should be poured into the aquarium. Neither plants nor sand will be disturbed if the force of the falling water is broken by letting it fall first over the hand.

5. The aquarium should be permanently where it gets, if possible, good northern light. In a few days the water will be crystal clear, thoroughly aerated, ready for the animals.

6. Healthy American gold and silver fish cost a little more, but they are much hardier than the German fish, which are so abundant at ten cents each, and so seldom worth buying.

The fish should not be too large nor too numerous. If you are so fortunate as to have a good northern exposure, and if the room is not overheated, a dozen medium-sized fish will not be too many in a five-gallon aquarium.

Young minnows, dace, black-banded sunfish, may be safely placed with gold fish, as well as tadpoles, snails, and mussels; eels, sunnies, catfish, mud winnows, cray-fish, beetles, must be cared for separately.

It is better to keep a few goldfish first, experimenting later with the less hardy, but more interesting kinds.

Feed every other day. A piece of the prepared fish food two inches square ought to be sufficient for a dozen mediumsized goldfish. Snails, mussels, and tadpoles do not require special feeding. It is a good plan to give all animals, once a week, a very little scraped beef, but great care must be exercised to remove the undevoured food.

With a spongs, keep the outside and inside of the aquarium clean. The water in evaporating is apt to leave an ugly white line, which, however, may easily be removed. The water should be replenished from time time, pouring it over the hand, as before, to break the force of its descent.

If the animals die, it is either because they were diseased in the first place, or because the aquarium gets too little light, or because food is allowed to decay, or because the room is kept too hot for either fish or children. If the water becomes quickly green, it is because the aquarium receives too much light .- "The Philadelphia Teacher."

Memorial Day Program

For the Primary Class.

Arranged by Annie K. Dunlap, Student in Michigan State Normal.

[Approved by Ada Van Stone Harris, supervisor of instruction in training department, at present, supervisor of primary education, Newark, N. J.]

Central Thought: Our Flag.

SCHOOL-ROOM DECORATIONS.

I. Room.—War time pictures (especially those emphasizing peace), flags, and flowers.

II. Blackboard.—Stencil pictures of Grant, Lincoln, soldiers, flags, "Old Abe."

III. Small flags (for children's use.)

PLAN OF WORK.

To give a knowledge of the origin of our flag and of its meaning, and to implant in each little heart a seed of patriotism.

OPENING THOUGHT: STORY OF OUR FLAG.

(Arranged from St. Nicholas.)

A long time ago, when our country was fighting to be free, the people thought they would like a flag different from any they had ever seen. A flag of their very own, to wave over their homes and school-houses, over their ships when they sailed away to other countries, and one to lead their soldiers to bat-

So they told George Washington to have the right kind of a flag made. He and a friend, Mr. Morris, talked about a flag, and wondered just what kind of a flag it should be. They wanted a beautiful one, and one that would please the people.

At last, after they had talked it over, George Washington drew a picture with his pencil of a flag with stars and stripes, and took the drawing to Mrs. Betsy Ross, a good milliner who lived in Philadelphia. Washington told her to make the stripes red and white, and the stars white on a blue sky, and he told her to make the stars with six points.

and he told her to make the stars with six points.

"O, no!" said Mrs. Ross. "I think they should have only five points." And Mr. Washington wanted to know why she wanted the five points. Mrs. Ross said: "When we look up into the beautiful blue sky at night, the stars seem to have only five points. They look just like this:" And she took a square of paper, folded it like "this," and with one of her scissors made the five-pointed star. (See note.*)

So Mr. Washington and his friend gave up to Mrs. Ross, and told her to make the stars with five points. Then she got some bunting, red, white, and blue, and in her own little shop she cut out and made our first flag with the stars and stripes.

Now, to-day, every day, this beautiful flag of our waves over our school-houses, and says: "I will protect you!" The soldier loves our flag, and when he marches off to war, he takes the flag with him and fights bravely for it. Our little soldiers to-day can love the flag and march after it bravely. We cannot go to war and battle now, but we can love and honor all those brave soldiers who did go, and gave their lives for our flag, which means to us and them, our country.

*Let the teacher fold and cut star as Mrs. Ross did. The model is below in the occupation work.

Music.-March to some national air.

SONG: -OUR FLAG COLORS.

I know three little sisters;
I think you know them, too;
For one is red and one is white,
And the other one is blue.

Chorus:-

Hurrah! for the three little sisters;
Hurrah! for the red, white, and blue;
Hurrah! Hurrah! Hurrah! Hurrah!
Hurrah! for the red, white, and blue.
[Children wave small flags.]

I know three little lessons,
These little sisters tell:
The first is Love, then Purity,
And Truth we love so well.

[Children point to colors in II.] Reference.—Tomlins: The Child's Garden of Song.

PENMANSHIP.

Write the tall lettetrs of the word "flag,"

WORD STUDY.

Flag,	stripes,	red,	George
Flag, soldiers,	white,	five-pointed,	Mr.
stars,	blue.	bunting,	Mrs.

READING.

Use the developed words in sentences. Let skilful questions bring out sentences.

I. Who wanted a flag?

II. What kind of a flag was wanted?

III. Who was told to make a picture of a flag? etc.

After fixing some points in sentences (given by the children), let them read, testing:

(a) Knowledge of words used.

(b) Original thought.

1 .

Emphasizing: Sight reading and thought reading.

NUMBER WORK.

Illustrate number work from story, using flags, soldiers, caps, guns, knapsacks, etc.

Let pupils make up stories with pictures on slates, to illustrate the number the teacher wishes to emphasize.

+1+1+1=4	1 + 3 = 4
2 + 1 + 1 = 4	4-4=0
3 + 1 = 4	4 - 3 = 1
1+2+1=4	4-2=2
1 + 1 + 2 = 4	
2 + 2 = 4	

SEAT WORK IN NUMBERS.

Use colored sticks as soldiers.

DRAWING.

Illustration of story. Tell story in pictures.

LANGUAGE.

Familiar talks and conversation on the work for the day. Written copy of important parts of the story or original sentences.

MARCH.—TUNE: "JOHN BROWN'S BODY."

Let children march with flags behind shoulders (like knapsacks), singing:

John Brown's knapsack is strapped upon his back As he goes marching on.

OCCUPATIONS.

Paper cutting. Flag and star. Model for star. Take a perfect square and fold from corner to corner, making a "shawl."

Fold I onto 2, leaving angle at "o," Fig. I. ("a" and "b" of equal size; "c" is one-half the size of "a,")

Fold 1 onto 2, and fold back 3 underneath to dotted line in Fig. 2. Cut dotted line in Fig. 3.

RECREATION.

SOLDIER BOY GAME.

Soldier lad, soldier lad, Will you tell us true, Where you are going With your red, white, and blue?

Children small, children all, I will answer you; I go to serve my country, With its red, white, and blue.

Soldier lad, soldier lad,
May we go with you?
We all love our country,
And its red, white, and blue.

Tall child, straight child,
I think I will choose you;
For I'm sure you'll carry bravely
The red, white, and blue.

EXPLANATION OF GAME.

Children stand in circle while one child, in a soldierly position, carries a flag and children repeat first verse as he marches around by them in circle.

Child answers in second stanza.

Children repeat third.

Child answers in fourth, and as he repeats "Tall child," etc., he walks up to some one in the circle who is in good position, takes hold of child's left hand with his left, makes a bow, and gives him the flag.

The play is repeated.

Music.

FLOWER SONG FOR MAY.

Sing, sing; Lily Bells, ring;
The blossoms are coming to town;
Daisies and lilies, and daffydowndillies,
Each in a fresh, new gown.

Sing, sing; Lily Bells, ring; The blossoms are coming to town; Lilacs and roses, and other sweet posies, Each in a fresh, new gown.

Sing, sing; Lily Bells, ring;
The blossoms are coming to town;
Pansy and mignonette, marigold, violet,
Each in a sweet, spring gown.

MUSIC:-AMERICA.

STAR STANGLED BANNER (DRAMATIZED).

O, say (1), can you see by the dawn's early light,

What so proudly we hailed by the twilight's last gleaming; Whose broad (2) stripes and bright stars, thro' the perilous fight,

O'er the ramparts we watched were so gallantly streaming (3).

And (4) the rocket's red glare, the bombs bursting (5) in air, Gave proof, through the night, that our flag was still there. Chorus:-

O, say, does that star-spangled banner yet (6) wave, O'er the land of the free (7) and the home of the brave (8)?

Children hold small flags out of sight behind them, banner up, in left hand. [Newr allow child to let flag droop.] Large banner should be in front of children.

Children raise right hand to brow, as if shading eyes while

1. Children raise right hand to blow, as it looking at flag.
2. Point at flag with index finger of right hand.
3. Wave small flags.
4. Children wave right hand round and round (stooping towards floor and describing circle on floor) then let the supposed rocket suddenly fly up into the air illustrating motion of rocket like this early at the same time five or more appointed by the teacher, may make the noise "s-s-s" very loudly, imitating noise of rockets—this should end on "glare."
5. Bring right foot to floor with stamp on "bursting."
6. Wave small flags.
5. Extend both arms.

o. Wave small hage.
7. Extend both arms.
8. Wave flags again.
At repetition chorus at last the whole circle takes a step toward enter, waving flag, and singing, "O, yes, yes," in place of "O, say, does.

The Spanish Armada.

[A Practical Lesson Outline.]

By E. S. Thorn, London.

A lesson on the "Spanish Armada," will prove at greatest interest just now in the classes in general history. It is not, however, an easy lesson to give, and without a graphic and interesting manner on the part of the teacher, may be a dead failure. Throughout the lesson, those of the children who possess atlases should be allowed to use them and follow the movements of the Armada for themselves. A large map should hang in front of the class.

Introduce the lesson by a reference to Mary of Scotland. She had declared that she had a right to the crown of England, and on her death she had left it to Philip of Spain. Who was Philip? Of what faith? Mention Mary Tudor, and contrast with Elizabeth. 'What was Philip's aim? To enforce his socalled "right," he prepared a fleet, which he called the "Invincible (explain) Armada." In May, 1588, the fleet left Spain under the command of the duke of Medina Sidonia. Philip ordered the fleet to sail up the English channel through the Straits of Dover, then to land at one of the Netherland ports, to take on board the duke of Parma and his army. The combined force was then to try to invade England.

ENGLISH PREPARATIONS.

A large army was ready to defend London. Every country had its militia (explain) ready to march as soon as the beacon signal sent the message from one hill to another. The English fleet was commanded by a Roman Catholic, Lord Howard, of Effingham.

Contrast vividly the Spanish ships and those of the English. The English vessels were of all sizes, shapes, and rigs. A number of them had been prepared by the self-denying efforts of the people in the towns and the rich nobles. Note the enthusiasm of the people. Drake, Hawkins, Raleigh, and Frobisher were under Lord Howard, of Effingham, as Lord High Admiral. Note that Elizabeth's economy kept the English vessels rather badly supplied with powder and provisions.

THE ARMADA ON ITS WAY.

Almost as soon as the Spanish fleet had started, the vessels were driven into Ferrol by a gale in the Bay of Biscay. About July the sails of the Armada were seen from the Lizard. The English beacons sent the alarm along the coast. (Explain beacon fires. Refer to Paul Revere's ride.)

The English allowed the fleet to pass, and then kept in the rear, attacking all the ships they could. The wind was up the channel, and favorable to the English. Further, the English ships were light; the Spanish, large and awkward. The fight

raged along the channel, the English gaining the victory. The English took the powder out of all the vessels they captured. When the Straits of Dover were reached, the Spanish fleet took refuge in Calais harbor. Howard ordered eight fireships to be lighted, and at midnight he sent them down with the tide right onto the Spanish line. At once, the Spaniards cut their cables, and began to drift with the wind.

THE FATE OF THE ARMADA.

The Spaniards tried to get to the shores of the Netherlands, but the wind helped the English. The latter managed to get in between the enemy and the port for which they were making, and so drove them into the North sea. It was impossible for the Spaniards to return against the wind, Norway and Denmark were unfriendly, and a storm came on. Drake remarked that he hoped soon, with God's help, so to manage matters that the duke of Sidonia should wish himself back at St. Mary port, among his orange trees. (What did Drake mean?) The Spaniards had nothing else to do now but to try and get home round the rocky coast of Scotland and Ireland. The English fleet troubled little more about them. There were high winds, the waves rose, and storm upon storm drove the Spaniards on the rocks. Many vessels were dashed to pieces against the cliffs of Ireland, and 8,000 Spaniards perished miserably between the Giant's Causeway and the Blaskets. It has been asserted that on a strand near Sligo, 1,100 corpses, which had been thrown up by the sea, were counted by an English captain. Only fifty-three ships reached Spain, and the loss of life had been so terrible that it was said afterward that there was not a family in Spain which had not lost a member.

RECAPITULATION.

In the brief recapitulation which should follow the lesson, special attention should be paid to the following points: Date of the Armada; meaning of term "Invincible"; reason of the attack; reason why the English gained the victory; what became of the Spanish Armada.

The children should have clear ideas as to who Mary Tudor, Elizabeth, Mary of Scotland, and Philip of Spain were. All difficult names are to be written on the blackboard and learned. [Adapted from the "Teachers' Aid."]

The Arabs as Builders.

By Abbie J. Gannett.

Authorities to consult:—Dr. Wilhelm Luebke, "Outlines of the History of Art" (edited by Clarence Cook); Iconographic Encyclopedia of the Arts and Sciences; Zanth, "La Wilhelma—villa mauresque de sa majiste la soi Guillaumede de Wurtemburg"; Harriet Martineau, "Eastern Life, Present and Past"; Irving, "The Alhambra"; Carlyle, "Heroes and Hero Wo. ship."

The Arab temperament is full of contradictions. One can easily believe the people to be descended, as they claim, from Ishmael, the son of Hagar. They are proud, earnest, and courageous, yet lazy and full of dreamy, poetical imaginings. They are temperate, hospitable, and generous; yet eager for revenge, fond of war, and often unjust. These traits make them restless, and hard to unite to carry out plans for improvement. So the Arabs to-day have little influence among the people of the earth.

THE BIRTH AND GROWTH OF ISLAM.

But once there arose among this people a leader so that he created armies for the conquest of half the world. That leader was Mahomet or Mohammed. Born about 570, A. D., he lived the first half of his life in a quiet way. His companions called him "the faithful." At the age of forty, he became a religious teacher, proclaiming one God in and over all, and announcing himself to be a prophet. His wife and a few immediate friends believed in him, and became the first Mohammedans. It was an Arab custom-not a bad one, either,-to go apart by one's self at times for meditation and prayer. results of such meditations, together with some rules for right living, that may have come indirectly from the Jews, constituted Mahomet's teachings. These were afterward gathered into a book called the Koran. The Mohammedans try to obey the rules of the Koran as we do those of the Bible. After much persecution, and having been many times in danger of losing his life, Mahomet gathered enough followers to make war upon his enemies. He gave them their choice be-

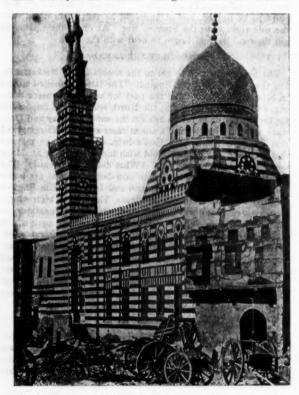


Fig 1.-Mosque of Emir Akbar, Egypt.

tween the Koran and the sword. The fierce Arab tribes were only too glad to follow such leadership. War was quite to their taste. And within fifty years of the first public appearance of Mahomet, not only the whole of Arabia, but of Syria, Palestine, Egypt, and northern Africa were conquered and forced to accept the Koran. Within a hundred years, the new empire came to include also Persia, India as far as the Ganges, Sicily and Spain—fully half the world as it was known in the seventh century.

This empire was called the Saracenic empire. "Saracens" is said to be the Arabic for "Easterners." In Africa, the Arabs would naturally be spoken of as Easterners, and the name clung. In Spain, they were called by an African name, "Moors."

SARACEN ARCHITECTURE.

At first the Saracens built no temple. There was in Mecca a rude covering over the spring Zem-Zem, which tradition said had burst forth miraculously to quench the thirst of Hagar and Ishmael, fainting in the noontide heat. Its waters were supposed to have healing power. Near the spring was the "sacred stone" that fell from heaven—a meteorolite, perhaps. It was worn black and smooth with kisses. Wherever they were, the Saracens turned their faces toward this holy place, and prayed at the appointed times. But, when in the lands conquered, they saw beautiful temples, they were unwilling that their religion should be without substantial outward token, and they began to build. Their first temples were on the main lines of the Byzantine church. They copied what they saw. But after a time, they were able to work out their own ideas in their own way.

The Mohammedans made their temples square or rectangular, with an open court inside. Here was generally a fountain for ablutions before prayer. A hall where the worshipers could take their places with faces toward Mecca, a holy place where the Koran was kept, and minarets, from whose galleries the priests summoned the faithful to prayer five times every day, were some of the necessary features. The mosques were usually made with domes—not half spheres, like the domes of St. Sophia, but swelling up beyond the hemispherical curve.

The domes were often covered on the outside with beautiful decorative designs (Fig. 1). Sometimes above the domes were placed the slenderest of crescent-tipped spires. The crescent has always been a favorite Mohammedan emblem, because, it is said, the pale crescent of the new moon once saved them from a night attack.

(The modern mosques are very like those made long ago when the Saracenic empire was the greatest in the world.)

For their doorways and the openings from the courts, the Saracens made beautiful arches. They often used an arch that was like a semi-circle; and sometimes one that was a larger part of a circle, a sort of horseshoe (Fig. 2). Perhaps these forms were suggested to them by the sun, which they had often seen rise over their native deserts. Some of their arches are slightly pointed like the door of a tent kept open by poles crossing. The most beautiful of all was an arch like the keel

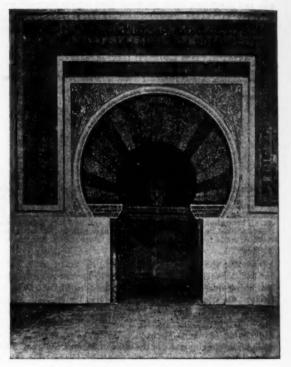


Fig. 2.-Sanctuary Door, Mosque of Cordova.

of a boat-bottom up—the keel-arch it is called. A section of the dome in Fig. 1 would give the form. The Saracens were the first to use the keel and the horseshoe arches. It is fair to say when you see one of those forms in our modern buildings: "That is Moorish, or Saracenic."

THE ALHAMBRA.

There are two old monuments of Saracenic art of which we ought to get a glimpse. One bears the marks of time and storms; the other, a later work, is still intact. The first is the



Fig. 3.-Court of the Myrtles.

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Alhambra, a wonderful palace in Granada, Spain. The other is the Taj Mahal in Agra,, India.

The Alhambra was the pleasure house of the Moorish kings. It belongs to the fourteenth century. Outside one sees only high, red brick walls with small windows here and there; but

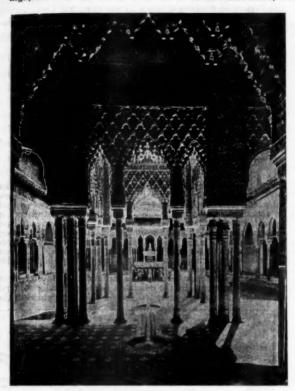


Fig. 4.-Court of the Lions.

inside it is, even now, like fairy land—contradictions consistent with Arab nature. "Here are cool shadows, sun-lighted spaces, fountains, flowers, birds, light and graceful forms—not built, only dreamed." Entering, one usually comes first into the Court of Myrtles, or the Court of the Fish Pond, as it is sometimes called (Fig. 3). It is a great open space, with a pool of water in the center, where the wives of the caliph used to bathe. Now the pool is full of goldfish. At the end of the court of are some of the richly-decorated arches the Saracens loved to make.

There is another great court in the palace with a fountain



Fig. 5.-Detail of Wall in Hall of Shields.

upheld by twelve lions of black marble. It is called the Court of the Lions (Fig. 4). Notice the foliated arches, the airy

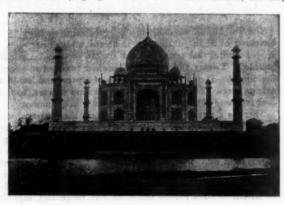


Fig. 6.-The Taj Mahal.

lightness of the pillars, and the rich decorations on the walls, Washington Irving says of this court:

"The floors are marble, the wainscoting of painted tiles, the walls of embroidery, still gleaming with the softened luster of their original tints, and the lofty conical domes seem to be huge, sparry crystallizations hung with dropping stalactites, rather than any work of human hand."

And again, "When you can weave stone and hang your halls with marble tapestry, you may rival it."

Fig. 5 shows a bit of detail from the wall in the Hall of Shields in the Alhambra. The Koran forbade the copy of any living thing, plant, or animal. For the most part, the law was obeyed, and as a result we have the fantastic, interlacing, patterns,



A street in Cairo, showing the latticed windows of the Saracens. "A" is a place where drinking water is kept cool.

known as "Arabesque." There are scroll-like forms, faintly resembling leaves perhaps, yet copied from nothing that grows. Sometimes we think we catch a glimpse of bud or flower, but it is sure to be most rigidly conventionalized. The Mohammedans disregarded the law, however, when they made the marble lions upholding the fountain.

Across the shields in Fig. 5 there are bands with Arabic letters in them. It is common to find letters woven into Saracenic ornament. In studying the design, do you perceive how utterly impossible it is for the eye to rest? The intricate

lines lead you on and on. One cannot but feel that the restless spirit of the Arab has expressed itself truly.

The Taj Mahal was built in the seventeenth century by the Emperor of Shah Johan, as a tomb for his favorite wife. It is so beautiful that some one has spoken of it as "a poem in marble." Twenty thousand men worked twenty-two years in building it. The tomb is in a garden of cypress and lemon and orange trees. There are roses and jasmine flowers, too, and long rows of fountains-so grateful in a hot country.

There is a terrace of pink sandstone, in the center of which stands a marble platform fifteen feet high. At each corner of the platform is a slender minaret. In the center of the platform is the building itself-its ground plan a square, with the corners cut off. The whole is of whitest marble, richly inlaid with colored marbles and precious stones. Over the entrance are verses from the Koran, and within the entire book is done in Mosaic of black marble and diamonds, turquoises, sapphires, and emeralds. Very dazzling it all must be under an Indian sun. I should like best to see it in the moonlight,

Under all this magnificence, in a softened light that falls through double marble screens, Shah Johan and his favorite wife lie, side by side. Every day their tombs are sprinkled with perfume-the attar of roses and sandalwood.

UNITED SARACENS.

It seems hardly possible that men of Arab blood ever made buildings that have been the wonder of ages; yet, so it is. I think it is because, for once in their history, they united-and "in union," every American boy knows "there is strength."

The Mechanics of a Book.

From a pamphlet issued by the board o education, of New Haven, Conn.

Teach children in the grammar grades to master the mechanical features of a book, which include:

- (a) The title page; author or editor, and the difference be-The meaning of the publisher's name. tween the two.
 - (b) Copyright, and the meaning of same. (c) The meaning and use of the preface.
- (d) Table of contents, and how it differs from the index.
- (e) Reason for division into chapters. Why chapters are numbered as they are.

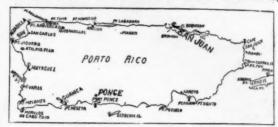


Rear Admiral Sampson.

Present Day History and Geography.

The War with Spain.

The developments of the week in the war with Spain have not been of as startling a nature as was expected. Confirmation is received of the great victory of Commodore Dewey in Manila bay. With the exception of a few vessels that were cap-



Island of Porto Rico.

tured, the Spanish fleet was burned or sunk, and the batteries on the islands at the entrance to the harbor and at Cavite were silenced. It does not appear that Commodore Dewey is yet in actual possession of the city of Manila. The insurgents, it is said, have committed fearful excesses; the Americans have done all they could for the wounded Spaniards, and to protect the inhabitants. It is evident that Comomdore Dewey needs help, which will be sent him as soon as possible. Congress has made him acting rear-admiral, and thanked him and his men for the victory.

Much mystery has been thrown around the movements in West Indian waters, by the officials. Some days ago, Admiral Sampson's fleet sailed eastward, and is now somewhere in the tured, the Spanish fleet was burned or sunk, and the batteries



Harbor of San Juan.

cicinity of Porto Rico. The Spanish fleet is supposed to have eft the Cape Verde islands for that island. Some of these ships may try to intercept the Oregon and the two cruisers with her, that were last reported Bahia, Brazil. If they go straight to Porto Rico there will be the greatest sea battle there of modern times. Admiral Sampson has with him two battleships, two monitors, four strong cruisers, and several other vessels. Just how many ships the Spaniards have is not known; but their squadron is strong. If Sampson wins, the

plan is for a vigorous movement with land forces on Cuba.

At home, the Spanish government is struggling with enormous difficulties. The people are hungry and riotous, and are expressing their dissatisfaction with the government, on account of the defeat at Manila. Many of the cities have been placed under martial law.

Holland's Girl Queen.

In September, the regent of the Netherlands steps aside, to make way for the future ruler of that serene and placid country, Queen Wilhelmina. The young queen is eighteen years of age, and just in the full glory of her girlhood. She has the easy dignity of true royalty, a fine figure, well-shaped features, clear, blue eyes, and lustrous golden hair; yet, she gives no signs of bodily weakness, though one cannot but notice her sensitive and nervous temperament. She is an accomplished skater, equestrian, lawn-tennis player, and has the other accomplishments of the modern girl, with the exception of cycling. Dignity and danger prevented her from taking to the wheel. Her chief charm is in her happy, girlish, healthy expression of face. All Holland is in love with its young girl queen.

The School Journal.

NEW YORK AND CHICAGO.

WEEK ENDING MAY 21, 1898.

The attitude of the nation towards Spain is no reason why a single lesson should be omitted. America has undertaken a serious business; the schools are assuming a serious task; the boys and girls are doing just as noble a work as the soldiers are; the teachers are their leaders. Let the thought be impressed on the children that "peace hath her victories as well as war." Let the teacher magnify his work. Those that march by with flags and drums are not doing a nobler work than he; only his work is not brought before the public so prominently and

Special attention is called to the article by Professor John Bach McMaster, on "The Social Function of U. S. History," which is reprinted in this number from advanced sheets of the Fourth Year Book of the National Herbart Society. The pedagogic soundness of the writer's argument is so apparent that educators will wonder why it is that the schools have gone so far astray in history lessons. A reform is absolutely needed. Dr. McMaster has said this again and again. His own contributions to the literature of U.S. history furnish abundant working material. His present article ought to get the reform work well under way.

Supt. Greenwood, president of the National Educational Association has made many cute remarks, being somewhat of a genius, although a school official. He classifies teachers as "regressives, standstills, and progressives." He says, "Can a teacher help going backward when her sole reading is the First Reader her pupils use?" First there is the ambitious stage; they are fresh from the academy; they have been under the influence of some active teacher. Then ensues the standstill stage; they are left to themselves and there is no internal force that commands them to continue their education. Then the retrograde movement sets in; they hate to teach and their pupils hate to be taught.

What is character? was lately discussed at a meeting of teachers in Indiana. Character is a completely formed will; it is where the volition consciously takes a particular direction; what a person wills consciously and persistently gives him character. A good character is where the volitions are in right directions. The character is formed at the age of sixteen and often earlier. How to form character, how to confirm it is the great and ever present problem. The tone of the school, the behavior of the pupils, their habits of punctuality, of good manners and language, of neatness and cleanliness, the cheerful doing of duty, the consideration for others, and honor and truthfulness in word and act are influences hat form character.

A Link Between Home and School,

CONFERENCE OF PUBLIC EDUCATION ASSOCIATIONS HELD IN THIS CITY.—A FEDERATION TO BE FORMER.

A conference of associations concerned in public education

A conference of associations concerned in public education was held last Friday and Saturday, under the auspices of the Public Education Association, of New York city.

Mrs. Schuyler Van Rensselaer, of this city presided. Among those present were delegates from the Brooklyn Educational Association, the Civic Club, of Philadelphia, the Association of Collegiate Alumnæ, of Boston, the Buffalo Public Education Association, the Woman's School Association, of New Haven, the Twentieth Century Club, of Boston, the Woman's Institute, of Yonkers, and the Educational Society, of Brookline, Mass.

It was decided to form a federation of these and other cosic

It was decided to form a federation of these and other socieof Mrs. A. J. Gorge, of Brookline, as chairman, Miss Hallowell, of Philadelphia, and Mrs. Van Rensselaer, of this city, was selected to have charge of the work of organizing the fed-

The next conference will be held in April, 1899, at Philadel-phia, on invitation of Mrs. Cornelius Stevenson, president of the Philadelphia Civic Club.

the Philadelphia Civic Club.

Mrs. Van Rensselaer welcomed the delegates to New York. She said the public education associations were making unnecessary the presence of women in boards of education.

Mrs. Howard Van Sinderen reported for the portfolio committee of the New York Public Education Association, describing its plan of pasting pictures from magazines, etc., on cardboard and distributing them among the schools. An immense number of portfolios of such pictures was distributed last year, at a cost of only \$53. She appealed for such pictures, particularly colored ones, which may be sent to Mrs. Van Sinderen, 14 West 16th street.

Mrs. Alice Upton Pearmain, president of the Association of Collegiate Alumnæ, reported on the work done in Boston, especially in cleaning up the school-houses, which she declared to be more important work at this time than efforts to change courses of study.

to be more important work at this time than efforts to change courses of study.

Miss Winifred Buck described the work of evening clubs for boys and girls as carried on by the New York Association in the public schools of this city. There are now six such clubs working under the direction of the New York Association. The members discuss political and social questions, and are much benefited thereby, besides being kept off the streets. Some older person is always present at club meetings.

Mrs. A. J. George, secretary of the Brookline Educational Society, said that members of that organization had discovered that harm may come from zeal without knowledge. The great advantage of organizations like these is to form a connecting link between the home and the school; seventy per cent. of the mothers of Brookline have no idea of what the schools are trying to teach. The great danger lies in intolerance of the new

advantage of organizations like these is to form a connecting link between the home and the school; seventy per cent. of the mothers of Brookline have no idea of what the schools are trying to teach. The great danger lies in intolerance of the new and its complement, unintelligent acceptance of the new in education. The Brookline Association works through nine committees. Its art committee had a loan collection in the town hall, to which every public school child was admitted free, where adults paid. Its committee on science has a choice collection of New England birds. Specimens of birds are arranged in drawers and passed around from school to school. Its music committee has given half-hour recitals, illustrating the best music, in different schools. Does it pay? Yes. The school is made a humanizing center. By such means, it is possible to put into every child's life the best things in the civic life of a city.

Miss Rebecca D. Beach told of the work of the Woman's Association of New Haven in decorating school-room walls.

Miss Dora Keene, of the Public Education Association of Philadelphia, said that parlor meetings had been found of great value in arousing interest in public school work in 'that city. Philadelphia is considering the advisability of medical inspection of the schools, adopted in Boston in 1894, in Chicago in 1896, and in New York in 1897.

It was brought out in the discussions that members of the Education Association of New York city feel that the present civil administration is a friend of the schools. Thirty-nine school buildings are now in process of construction or contracted for in this city; fifteen are nearly finished, and, although it is thought that no more buildings will be contracted for at present, owing to the comptroller's attitude on the city debt, yet members of the association believe that a way will be found to complete speedily those planned and begun.

Others taking prominent part in the conference were Mrs. Frederick Belamy, of the Brooklyn Education Association and Schoo

are: Mrs. Robert Maclay Bull, Mrs. Edward R. Hewitt, Miss Isabelle M. Kobbe, Mrs. Charles H. Lee, Mrs. Edward S. Mead, Miss Helen Moore, Mrs. Charles M. Perry, Miss Alice Pine, Mrs. S. M. Price, Mrs. William S. Rainsford, Mrs. Wil-liam E. Q. Scott, Mrs. Frederick J. Steimson, Mrs. Howard Van Sinderen, Mrs. Gordon Wendell.

Pres. Eliot's Views on Elementary Schools.

Manchester, N. H.—Pres. C. W. Eliot, of Harvard university, spoke recently to the Merrimac Valley Teachers' Association on "Reform in the Elementary Schools." In the course of his remarks, he said:

"It is worth while for any child to study foreign language, and the pupil should begin as early as ten years of age. I have in mind several Massachusetts towns where foreign languages are taught in the grammar grades, and the success of the scheme is marvelous. I have yet to find a school that has added foreign language to its study that has not made a pronounced success of it.

"It is very surprising to note the large percentage of pupils

added foreign language to its study that has not made a pronounced success of it.

"It is very surprising to note the large percentage of pupils who omit foreign language when they elect their studies in oth the higher grades of public schools. It is also surprising to note the kind of pupils who do elect languages. In Cambridge, more Irish than American pupils elect Latin and Greek, and doubtless the same may be said of many other cities.

"In my opinion, children should begin to study Latin when ten years of age. The mind is just as capable of reasoning Latin at ten as it is at fourteen, and the pupil who enters the high school with four years' Latin study is ahead just so much in his education. Many pupils say: "Well, I'm not going to college, so foreign languages will do me no good." If the study of languages is good for bright children who expect to go to college, it is equally as good to those who do not go."

Speaking of algebra, he said: "Algebra used to be accessible to the child, but it is not now. We have a notion in our country that certain things are practical, and that certain things are not practical. We have always called arithmetic practical, but, to my mind, it is no more useful to the daily routine of the average man than the study of history is useful in natural history. Arithmetic is not nearly as practical as foreign language.

practical, but, to my mind, it is no more useful to the daily routine of the average man than the study of history is useful in natural history. Arithmetic is not nearly as practical as foreign language. Arithmetic does not supply any reasoning qualities that we want in practical life. Geometry should be taught when the child is eight years old, and kept up till school life is ended. Of all good studies, geography seems to be the least productive. It is often taught purely as a matter of memory, and not observation. What is gained by compelling the children to learn the boundaries of every state and the capitals and is more than I can see. If a child is anywhere near bright, he will soon learn capitals and cities from the newspapers. In the study of geography, apparatus is needed. At Harvard, we have a geography laboratory, where hills and valleys and formations may be studied by the eye, and not from reading. Photographs and models are essential in the study, as well as charts and contour maps. All these enable the teacher to demonstrate the working of things and get at the root of the study. Geography should be taught in the grammar schools in the same way, if good results are wanted."

Pres. Eliot also urged the use of the magic lantern in school work. It is essential, he said, in every study. "In fact, no branch of school work can be carried on adequately without a lantern. Some one has asked me if children cannot be taught from books alone, and I replied, that in college we cannot teach without the lantern, and the less advanced grades certainly need the apparatus more. Take the study of history. Every person who has a right to have his name mentioned

certainly need the apparatus more. Take the study of history. Every person who has a right to have his name mentioned should have his face placed before the pupils. How much more interesting is the study of a war with illustrations than without. The best way I know to study the American wars is with the stereopticon."

Arts and Crafts Exhibit.

About a year ago a number of citizens of Indianapolis organized the local Educational Association. The aim of the association is to promote the welfare of the public schools by bringing about a closer sympathy between the public and the teaching

about a closer sympathy between the public limits of the lower grades force.

The establishment of the Industrial Training school and the gradual introduction of manual training into the lower grades has directed the interest of the association into this channel. In the interest of such courses the association has just held its first annual "Exhibit of Arts and Crafts." Representative work of the various grades was shown, and the Industrial Training school in which the arts and manual training courses culminate demonstrated by its work how much can be attained by students along these lines. By granting a half-holiday, the board enabled all the school children to visit the exhibit and consequently their interest in such work has been stimulated. The interest taken by the public is proved by the fact that in spite of the nominal admission in such work has been stimulated. The interest taken by the public is proved by the fact that in spite of the nominal admission fee of ten cents, the association petted one thousand dollars which is to be invested in pictures to adorn the school rooms of the city.

Washington's First Bird Day.

The state of Washington celebrated its first Bird day May The department of public instruction published, under the

auspices of the Washington State Federation of Women's Clubs, a manual of exercises for the day. This is an illustrated pamphlet of fifty pages, containing prose selections and poems taken from our nature-loving authors; original papers by teachers and superintendents, subjects for appropriate essays, and the Hon. George F. Hoar's "Song Birds' Petition" to the Massachusetts legislature. The pamphlet is well arranged, and has a permanent value.

What About the State of New York?

New York-state has, a population of seven million. This is larger than Sweden and Norway, larger than Belgium, larger than either Hollard, Switzerland, Bavaria, or Portugal, and about the same as Persia, Roumania, or Morocco. The average school attendance in this state for last year, was \$30,250, and the total expenditure for schools \$26,000,000. Sweden and Norway combined, expended \$8,000,000. Gweden and Norway combined, expended \$8,000,000. Russia with a population of 90,000,000, expended less than New York state. France expends twice as much as New York, with a population five times as great. Germany expends three times as much, with a population nine times as great.

Moral Effects of Vacation Schools.

Moral Effects of Vacation Schools.

Hartford, Conn.—Mr. John Graham Brooks, of Boston, recently delivered an address on "Vacation Schools" to the Civic Club of this city. Mr. Brooks has made a thorough study of this new feature of education. Among other things, he said: "I can safely say, that if is were a device of society to have a school for the raising of hoodlums and young criminals, all they would have to do would be to leave them in the street during the summer months while the rich people are away at the seaside and mountains. The vacation school is the awakening of the people to this fact.

When the vacation school was started in Boston, teachers were sure of failure. Parents, also, were indifferent; but now many of them ask that their children's names be placed on the list. The school now starts with accommodations for 350, and 800 will come. In Cambridge, where attendance is compulsory, there are not so many students proportionally as in Boston, where attendance is simply asked for or allowed. This shows that the persuasive form of education is better than the compulsory.

Mothers have come to us and told us that the vacation schools have changed their whole lives by removing their anxiety for their children during the summer months. A well-known judge told me that an almost unmanageable hoodwell-known judge told me that an almost unmanageable hoodlumism and criminalism is growing up in, not only our city,
but our country life. We are closing up the avenues of migration with the result, that all the worthless men and good-iornothings are gradually drifting back into the cities. Every
year it is becoming more and more unsafe to leave our homes
for the summer, for when we come back, we find our grounds
despoiled and our fruit trees ravaged and broken down. The
vacation school is eliminating this by taking the younger have vacation school is eliminating this by taking the younger boys and girls away from the corrupting influences of the street life and instilling into their youthful minds new ideas and

life and instilling into their youthful minds new ideas and good citizenship.

Many Western towns have adopted Curfew laws with excellent success. The mayor of Lincoln, Nebraska, says: "It has reduced the rate of juvenile crime fifty per cent in eighteen months." If the Curfew bell has gained this point by driving children off the street at nine o'clock, what do you think a vacation school can accomplish in the way of such results? If the Curfew bell has its advantages, how about the vacation school with its discipline?

The jails and reformatories are practically mills of crime.

school with its discipline?

The jails and reformatories are practically mills of crime. The prisoners are in an atmosphere of crime. This shows how necessary it is to commence with those on the streets. We must go to the source of the crimes. A well-known Western judge said to me in answer to my inquiry. "I do not see how we could do worse than we are now doing it. I never sent but one boy to jail or to a reformatory without feeling that I have done society an injustice. The one exception was a boy brought before me for stealing fruit. I was obliged to send him to jail and did impose a sentence of sixty days; but I made arrangements that he should be released every day and obliged to attend school. He did so, coming back to the jail every night to sleep. That is the only satisfaction I ever experienced in sending a boy to jail."

Two Plans for Grading Salaries.

Supt. Preston W. Search, in his annual report to the school board of Holyoke, Mass., recommends several plans for the adjustment of teachers' salaries to do away with the present unjust conditions. The first plan contemplates the arrangement of teachers into five classes, known possibly as A, B, C, D, and E, and recognized with salaries scaled as follows: Class A, \$500; Class B, \$700; and so on to Class E, \$400. In determining the class of a teacher, five points might be taken into consideration: 1, health; 2, scholarship: 3, specific training; 4, natural ability; 5, professional spirit. Of course, inexperienced teachers would be assigned to the lowest class. The plan would have to be operated either by some one person in whom the board and teachers had the utmost confidence, or by a small committee on

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qualifications, from whose decision there could be no appeal. The advantages of this plan would be in putting a premium on ability and good work, and adding an incentive for study and professional training. Promotion would be continual, and the efficiency of the schools constantly increased.

The second plan is based on the disparity in the size of classes. It contemplates making the salary of a given teacher, say \$600, dependent on an approximation of forty pupils (except in Grade IX), with a discount of twenty per cent. should the number fall below thirty, and a premium of twenty per cent. if above fifty. This would have the effect of removing the injustice done at present to the teachers of very large schools.

The Illinois State Superintendency.

The Illinois State Superintendency.

There are many candidates for the position of superintendent of public instruction. Alfred Bayliss, principal of the township high school, Streator, will again be a candidate. J. E. Bangs, principal township high school, Pontiac, is making a vigorous campaign. Supt. Robertson, of Peoria county, also has a local boom. Assistant-Supt. J. H. Freeman may decide to be a candidate since Supt. Inglis is out of the race.

The Democrats would nominate Prof. David Felmby, normal, but he may not accept the place. In case he refuses to make the race. Supt. Glendennen, of Cairo, and Prof. Kirk, of Carbondale, will be in the field.

race, Supt. Glendennich, of Cano, and will be in the field.

Supt. S. M. Inglis will deliver commencement addresses for the following: School of Pharmacy, Chicago, April 19. High School, Elgin, April 23. High School, Newton, May 11. Rural School Graduates, Ottawa, June 18.

Cleveland's Central Manual Training School.

Cleveland's Central Manual Training School.

Cleveland, O.—Excellent work is being done at the Central Manual Training school of this city. The course is particularly comprehensive. The first-year work includes linear, geometrical, simple machine and freehand drawing and lettering for the boys, while the girls have freehand drawing from cast and models, topographical drawing, light woodwork, clay modeling, and plain sewing. The girls have made some handsome designs in bas-relief, conventionalized flower patterns, and details of architectural ornament. These are first done in plaster, and then cast by the girls.

The boys take up plain tinting, orthographic projection, development of surfaces, isometric tracing and blue printing in the second year, while the girls have charcoal drawing, ornamental design, wood carving, and embroidery. This is as far as the girls' course goes.

In the third and fourth years, the boys do shades and shadows, mechanical perspective, advanced tinting, plain architecture, geometrical curves, screw, worm, and gear instruction, and advanced architecture.

In the shops, the first year is devoted to carpentry and joinery, and wood turning; the second year, to cabinet and pattern making; the third year, to iron and steel forging, clipping, and filing; and the fourth year, to machine shop practice.

Much valuable work has been done by the 260 students,—200 boys and 60 girls. They make handles of all kinds, dumbbells, fancy inlaid tables, wooden cups, vases, plates, mallets, musicracks, simple writing-desks, and all the wooden patterns for the cast-iron work. The girls have lately completed a fine set of clubs for the Cleveland police. The boys have just made a specially-designed oak desk for the use of the school. It is beautifully joined, finished, and polished, and worth at least \$65. One boy has built during this last year an electric motor, while another has built a gas engine of one-quarter horse power. Every part of the work was done by the boy himself.

The Merit System in Baltimore.

The Merit System in Baltimore.

Baltimore, Md.—The school board of this city brought upon itself public disapproval by a recent vote. The new charter of the city provides that the mayor shall appoint the board, regardless of ecclesiastical or party ties. The teachers are to be selected in order, from a properly graded list, based on evidence of fitness for teaching. In this way, a purely merit system is to be introduced, resulting, as all educators believe, in increased efficiency and better schools.

The new charter and the new system does not, by law, go into effect until 1900. But Commissioner Dix introduced a resolution at the school board meeting for the immediate inauguration of the merit system. The board voted it down. A strong protest from the people was at once made. On all sides, members of the board were accused of a desire to use their offices for political rewards, rather than for school interests. But the various members of the board strenuously disclaim this. Commissioner Bond says that the board is in favor of the merit system, and that the resolution of Mr. Dix failed of adoption, simply because it only partially covered the ground. The board wishes to adopt the whole system for which the charter provides, at once.

Bread Riots in Italy.

A serious state of affairs exists in Italy, where numerous bread riots have lately occurred. On Saturday, May 8, a battle took place in Milan, between the mob and the troops. The rioters occupied the housetops and hurled down tiles and chimney pots on the heads of the troops, who retreated amid

the jeers of the populace. Twenty-five of the sixty-nine provinces of Italy are under martial law.

Educational Conditions in Philadelphia.

Supt. Brooks, of Philadelphia, in his annual report recently submitted to the board of education, says that there has been an increased attention of about 5,000 pupils during the last year. Since 1892, the increase in the higher schools has been nearly 2,000, or about 66 per cent. The interest in advanced education is constantly growing, necessitating the immediate enlargement of both grammar and high school accommodations.

tions.

The high school for girls is an institution of which the city is justly proud. Here a young woman can fit herself for the business office or the counting-room, the normal school, or the college. One of the graduates won the first rank in the Bryn Mawr entrance examinations last year. A classical course was established in 1890, with the result that about a half dozen graduates are now in Bryn Mawr. The new scholarships obtained from the city council will enable more young women to be sent there. Supt. Brooks makes a strong plea for the establishment of a college for women in the University of Pennsylvania. He is no doubt rejoicing that his desires in this direction will soon be fully realized.

Supt. Brooks renews his recommendation for the addition of two years to the boys' high school course. This idea has been strongly endorsed, and public opinion seems to be growing in its favor.

ing in its favor.

The movement for a commercial high school, which Dr.

Brooks as earnestly favors, has already been discussed in

these columns.

The kindergarten system, which became a part of the public schools in 1887, includes, at present, 135 kindergartens, 180 teachers, and 5,964 children.

Cooking was introduced in the Philadelphia schools in 1887, in the high and normal school. Two years later it became a regular part of the grammar grade work. It is now a part of the tenth grade, or the sixth school year course, and includes between twenty-five and thirty lessons. About 2,000 pupils are accommodated in the eight departments.

Sewing is studied in all grammar and secondary grades, in

Sewing is studied in all grammar and secondary grades, in which girls are pupils. Teachers of sewing have to pass a

which girls are pupils. Teachers of sewing have to pass a rigid examination.

During the past year, music has been made a part of the public school work. A director of music and six assistants were elected, a musical institute conducted during the summer, a syllabus of lessons prepared, and the work regularly begun in the fall of 1897. It has started well, and promises the best of results.

The Child Study Society, organized last year, has already collected considerable data with regard to defective vision, and with the extension of the work, the society promises to become powerful and valuable.

and with the extension of the work, the society promises to become powerful and valuable.

The movement for bringing the teachers into closer connection with the university has been so successful that last year over 250 teachers were enrolled in the classes.

The compulsory education law is as yet in its infancy. The enforcement of the law was put under the direction of the superintendent, and the department of compulsory education was organized. As far as the work has gone, the investigations under the law have brought to light many interesting facts and many abuses, which will have to be corrected.

Impressive Exercises at Poughkeepsie.

Poughkeepsie, N. Y.—The schools of this city combined their forces for one complete and stirring Arbor day program. The three thousand children marched in gay procession, each child bearing a flag, from Mansion Square park to College Hill park. The procession was led by the Twenty-first Regiment band, and the perfect order of march was a fine comment on the work of the teachers. The exercises opened with a salute to the flag, followed by "The Star-Spangled Banner." Two thousand children's voices, singing the stirring song, was an inspiration in itself; but when, with perfect accuracy, they took the note of high b flat, the great audience burst into tremendous applause.

tremendous applause.

Supt. Skinner's Arbor day letter was read, recitations from Bryant and Longfellow were given, patriotic songs were sung, eloquent addresses were made, and six trees planted. It was a day to be long remembered.

Two Timely Educational Essays.

Two Timely Educational Essays.

The May "Atlantic" contains two forceful and valuable papers on educational topics. The first is by Prof. Hugo Münsterberg, of Harvard, who recently sounded in the "Atlantic" a warning to teachers against expecting to get mental facts for educational uses by dabbling in psychology. He now contributes a paper entitled "Psychology and the Real Life." He analyzes the nature of real life, the conception of personalities, their action and relations, and he points out that psychology is not the study of real life, and that it is not a substitute for the sciences that consider the inner life as a will system to be analyzed and explained, but is a supplement to them. If properly directed, he sees before it a welcome future. "Psychology is an end, as the last word of the naturalistic century which lies behind us; it may become a beginning, as the introductory word of an idealistic century to be hoped for."

Chicago Notes.

Dr. Alport, of Minneapolis, read before the Teachers' Club a paper upon the methods of examining the ears and eyes of the children of the city. A postal, stating that the child's ears or eyes need attention, is sent to the parent. The postal contains a list of dispensaries where free treatment is given. For tains a list of dispensaries where free treatment is given. For some reason, the postals to be employed in Chicago are not to have the list, but the teacher is to be provided with one. What a blessing it would be, both to teacher and child, if parents exerted themselves in this matter. In some districts it seems to be considered a disgrace, not to have, but to acknowledge any defect in the sight; and the consequence is, that the children are straining the little sight they have.

The Salaries Guestion.

The kindergarten teachers have asked for a raise of salary, and Pres. Halle says they will certainly get it. They ask for only three-fifths of the maximum of the grade teachers, which is very reasonable of them. Practically their whole afternoon is taken up preparing for the next session's work, and yet they

is taken up preparing for the next session's work, and yet they expect to be paid for only three teaching hours.

The head assistants are asking for an increase. When the grade teachers' salaries were raised, the head assistants were not mentioned, although one of the most vigorous members of the federation is a head assistant. It was supposed that the superintendent would look after their interests, but it now appears that if they receive an increase, the principals must also have a raise; otherwise, some principals would receive less than head assistants. As one great consideration for the increase of teachers' salaries was the difference between the maximum salary of principal and teacher, it seems hardly possible that the principals' salaries will be raised. possible that the principals' salaries will be raised.

High School Exercises.

The high school wished to have their closing exercises in hired halls, but the board refused, because there were so many good halls in the school buildings. Two schools are to hold their closing exercises in the Auditorium, but the pupils foot the bill. That is pretty hard on the pupils who are poor. The graduating class in nearly every high school is almost large enough to fill a school hall itself, and it does seem too bad that on their one great day they should not be allowed to exhibit themselves to their admiring friends. There is difficulty in squeezing the audience into the hall, even when a grammar grade class is graduated.

Place of the Grade Teacher.

Much dissatisfaction is expressed about the representation Much dissatisfaction is expressed about the representation of the grade teachers in the council. Many think one teacher is not enough; that the high school, principals of grammar schools, and superintendents, will have it all their own way, as heretofore. They claim the object of the conference will be lost, and strongly recommend the withdrawal of all grade teachers from the councils, since their presence there is merely a farce. The subject is to be taken up by the federation.

Chicago Schools and the War.

Dr. Nightingale requested the principals to open sessions with patriotic songs until the war is over. Our flags are always flying, so nothing can be done in that line, although nearly every boy and girl is decorated with Cuban and American flags.

nearly every boy and girl is decorated with Cuban and American flags.

The information given by the pupils is sometimes startling in character, but the maps and pictures brought to school show the interest taken. One teacher has the border of hermap of North America covered with clippings, and the children are clustered around it at every opportunity, locating places and ships. Most of the fifth-grade boys seem to know the name of every battleship in the navy, and give shrewd opinions, all their own, on every subject. "My father says, but I don't think so," is heard often.

Principals' Recommendations.

The Ella F. Young Club, composed of the lady principals, forwarded a number of recommendations to Dr. Harper, chairman of the committee, appointed by the mayor, to improve the public school system. There are thirteen subjects pertaining to the betterment of present conditions in the schools

School for the Blind.

We are to have a school for the Blind. The question of the dormitory was laid aside. It was said that a blind school could not be run without a dormitory, but the board does not permit the educational department to erect one. It is rumored that a subscription will be raised for its erection, if no other way is found.

Perhaps the time will come when the feeble minded will have a school, the ones not quite feeble minded enough to go to Lincoln, and yet too feeble minded to be in a school-room, where they are the butt of the children and a worry to the teacher, both in and out of school hours.

To Visit Mammoth Cave.

Mr. Watt is to take a party of teachers to Mammoth Cave during the vacation week. A most enjoyable time is anticipated, and a large number of teachers are going. It is getting to be quite the thing to take a trip during the spring vacation, and avoid the miseries of house cleaning on one hand, and the danger of spending more than one wants to in shop

and the danger of spending more than one wants to in shopping on the other.

The election for officers of the federation took place April 23, and there was some electioneering done. The seven ballot boxes, borrowed from precincts, were ranged around the room, each in charge of one of the vice-presidents. One had to be pretty firm to stick to her candidate with the persuasion brought to bear upon her by the friends of the other side. Some members had not thought the election of much importance until seized upon he comparingers and asked about here Some members had not thought the election of much importance until seized upon by campaigners, and asked about her choice. Many who really favored Miss Goggin, considered that she had a token of their esteem as pension trustee, so voted for Miss Burdick, under whose leadership the salary raise was brought to a triumphant issue. The running was closer than anyone had any idea of. Miss Burdick won by four votes. Only 634 votes were polled, showing that the teachers have not yet awakened to the importance of the ballot. One vice-president won by one vote.

Science Teaching in Elementary Schools.

At the Chicago principals' meeting, May 7, Supt. Lane suggested that the principals who congregated in the vestibule at the rear of the theater come forward as an encouragement to the speakers. He intimated, also, that if the principals who habitually occupied the back seats would change places with those in front, for once, they might find themselves benefited, The principals' quartette sang some patriotic words to the tune "Baby Mine," and upon mention of Dewey and Cuba, brought down the house.

Miss Mighell's Paper.

Miss Mighell's Paper.

The paper presented by Miss Mighell, of the Bryant school, upon nature study was interesting, instructive, practical, and well delivered. She said that physiology, which had been introduced into the lower grades, had reduced the time for nature study, but the analogy between human and plant life could be shown, and shown particularly well at this time of the year. She showed how the leaves of the plants performed the same office as the lung. She told how the respiration of plants could be shown by placing leaves under water in sunlight; the circulation, by placing them in water dyed some deep color. She does not believe in talking much about the evils of the use of alcohol and narcotics. Repeated warnings produced mental suggestions, which the boy, always anxious to experiment, might put in practice. Children should be spared the recital of the horrors of a life addicted to drink. Prominent lives dimmed by drink might be told about; Edgar Allen Poe, for instance.

Teachers think the teaching of science not a serious or important matter, and consider it only one thing more added to the already conglomerate course of study; the introduction of anything new in method had to be content, like the camel of the story, with getting only its head in; afterward, it might effect more than an entrance. We must judge what the essentials are, and correlate subjects, that something tangible can be given

be given.

The teachers are untrained; their knowledge of science and nature is taken from books, the observation method being but a recent innovation; consequently, they hesitate to attempt the teaching of anything of which they know so little. No principal knows everything about everything; why not combine and divide subjects so that any one proficient in a certain line may help his neighbors?

We are said to be supervised to death; but the supervisors, instead of being directive, are attempting to make their special studies developing. That being the fact, why not have a supervisor of science? Thus every study would help every other, and lessen the burden. be given.

Why not teach science through literature first? Poetry could Why not teach science through literature first? Poetry could be classified according to seasons; have a committee appointed to select poems to be used in all schools. It is unnecessary to have each one making his own collection. Originality and individuality are developed in no better way than by studying nature and science. Manual labor is being taught, not so that the child may learn a trade, but that he may apply certain principles to anything he may undertake. It has been said that this country has every resource, but trained hands; and it is the duty of us whom the government has treated so munificently to make some adequate return. This can be done in no better way than by training minds so that the hands will be trained; the ability to apply the principles of science is the first step.

Mr. Rishel, of the Ogden school, had the next paper. He endorsed Miss Mighill's suggestion as to the collection of literature to illustrate nature and science work. He would go farther, and ask for a collection to illustrate history. There should be an exhibition of simple apparatus suitable for school experiments in the board room, with some one to give instruction as to its use. Teachers' desks in school-rooms are

not suitable for working out experiments. A light, movable table should be provided for use in all rooms. Every building should have an apparatus case. That the teacher is slow to begin teaching science or nature is not an indication of laziness, but a knowledge of her own limitations. In the future, teachers will be better prepared, owing to their superior advantages while in school; but we have many teachers who do this work, and do it very well. After awhile the others will have become qualified. Mr. Rishel said that he knew one teacher who had provided herself with all material for illustrating the nature work in a supplementary reader. The strongest teachers find a way to get through their course of study and leave nothing out. Correlation is the secret. If anything is to be dispensed with, it certainly should not be nature. Children's attention and interest are dulled by formal studies. More nature work furnishes a bettter education. Children want concrete facts; generalizations are dry bones.

Children want concrete facts; generalizations are dry bones. It should be as much of a reproach to a man to be unable to read nature's book as to be unable to read a printed one. Mr. Rishel advocated school gardens and miniature farms; he believed some schools had them; but one principal told him the janitor objected, and that was considered good and sufficient sesson for having none it seems. reason for having none, it seems.

(Mr. Byrnes should have spoken up for his janitor at this point. He was so interested in the beautiful garden planned by himself and Mr. Byrnes that he sent abroad for seeds. The place was made an educational factor in a neighborhood whose unoccupied ground was adorned with tin cans.)

Mr. Rishel considered mineralogy is a fascinating study, and he had found it of service in taming unmanageable boys. Children love to pick up pebbles. A supply of coarse granite could be obtained from monument works, and the quartz cryscould be obtained from monument works, and the quartz crystals could be pointed out even by a teacher who knew very little of the subject. Building stones could be brought in. He took twenty-five boys with him on a wheel ride. They reached Glencoe, and in a small territory saw all the phenomena to be observed in the whole course of the Mississippi river. Afterward, he took a party of seventy-five to Stony Island, and for a week they talked of nothing but their discoveries.

A principal announced the formation of a club for the inter-change of stereopticon slides. Many of the schools have spent the proceeds of their entertainment for stereopticons, and it is proposed that each member of the club buy fifty or more slides, and thus provide themselves with about 2,000 in

Brief Items.

A petition is being circulated among the teachers, asking the mayor to reinstate Mrs. Hull, who did so much for them in their battle for a "raise."

The head assistants and kindergartners have had an increased salary, but not what they asked for.

The work of providing playgrounds for the children has begun. A fine one was opened for their use May 7. It is in a locality where children who otherwise would have nothing but the pavement, can make use of it. It is suggested that small grounds be set aside in densely-populated districts; and eventually this will come to pass, as the people of Chicago are noted for the readiness with which they grasp and put into execution any plan which will benefit the city or increase the opportunities for making the right kind of citizens of her growing generation.

Ten little girls cooked and served dinner for the educational commission and its guests, at the Chas. Kozminski school. The dinner was pronounced such a success that a recommendation to have the good work introduced into other schools is to be presented to the board. The parents fear that their children are being "trained for servants" sometimes, but when the well-to-do people have their little girls take advantage of these opportunities, the others eagerly follow.

In the Kinzie school, a breakfast is provided for the children who need it. The Woman's Club does this work in some schools, but I do believe that Asst. Supt. Speer foots the bill for the Kinzie, and perhaps for some others.

Mary E. FitzGerald.

Miss Helen Butler.

Miss Helen Butler.

Miss Helen Butler, who has been on the rolls of the Chicago public schools for forty years, recently died at Oakland, Cal. Owing to ill health, she retired from active service as principal, in the summer of 1896.

Helen Butler is a descendant of John Alden. She was born in Lowville, N. Y., in 1833. All of her life after she became old enough to attend school was devoted to the work of education. Supt. Lane estimates that she must have graduated from the schools and departments over which she had charge more than a thousand persons. After completing her education at Mount Holyoke seminary in Massachusetts, she came west to Illinois, in 1850. Her first experience was in a small private school, held in the basement of a church in Kane

county. Her next was for a period of two years in Dupage

county. Her next was for a period of two years and county.

In September, 1854, she came to Chicago and received a teachers' certificate, and, in 1858, she was appointed and assigned to the Washington school, Sangamon and West Indiana streets. Three years later she was promoted to the grammar department of the same school, and, in 1863, to the position of head assistant. In 1866 she was transferred to the Skinner school as assistant principal. There she remained until the fire, when she was transferred to the Lawndale school and elected principal. Four years after that she was given charge of the Nickersonville school, which was later rechristened the Headley school In this, the scene of her last years of service, there were eighteen teachers under her supervision and pupils ranging in

eighteen teachers under her supervision and pupils ranging in number from 700 to 800.

Among the older teachers and members of the board of education the name of Helen Butler is a synonym for faithfulness and judiciousness. Her work was always marked for these characteristics.

Alfred Kirk said recently of Miss Butler: "She will be remembered as a faithful, hardworking, conscientious teacher

membered as a faithful, hardworking, conscientious teacher and a judicious manager. The school departments under her charge were always in excellent condition, and the teachers who to their principal, admiring her as a friend."



Pittsburg Notes.

The Principals' Association at its May meeting discussed the matter of adopting the eight-year course of study to existing conditions. The course about to be superseded is, on paper, a seven-year course, divided into fourteen steps, two of which are supposed to be completed each year. It has long been customary, however, to take two years for the last two steps, in order to make more certain that children are sufficiently well "stuffed" to pass the examinations for admission to high school. This, of course, made the course an eight-year one. Theoretically, pupils entering school at six years of age should have passed into high school at fourteen; but, practically, they did not, the average age being between fifteen and sixteen. Some classes averaged nearly seventeen; others about fourteen. Why some schools required three years longer than others to complete the same work it is not necessary to state here. The fact, with its inferences, indicates the difficulty in substituting an entirely new course with any expectation of practical uniformity in the grade work of the several schools. All those who took part in the discussion expressed confidence in the successful adaptation of the new work, of which many favorable words were spoken. Most schools seem to be completing the last half of this year with an eye on the new work for next year.

The association, with but two dissenting votes, passed a

an eye on the new work for next year.

The association, with but two dissenting votes, passed a resolution requesting the Central board to abolish, after 1898, the examinations for admission to high school, except in certain cases. The plan in mind is, that pupils recommended by principals shall be admitted without examination; but other pupils, failing to secure such recommendation, and feeling competent to enter high school, shall be entitled to an examination.

ination.

For many years the city superintendent and the principal of the high school have had entire charge of the examinations. The Central board, at its last meeting, however, severed the superintendents' connection therewith, and provided for a board of examiners, to be composed of the principal of the high schools and the heads of the three departments thereof. The purpose and effect of this move will be noticed later.

School Superintendents Meet.

Boston, Mass.—The New England Association of School Superintendents held its sixty-second annual meeting in the Latin school last week. Pres. William D. Parkinson, of Amherst, presided. Supts. Russell, of Brookton, and Stuart, of New Britain, Conn., read papers on "Visiting Days." Mr. Russell said some teachers should be allowed to visit schools, and others should be compelled to. There are three qualifications for a teacher, he said—tact, winning manners, and methods. A teacher may have two of these and not be successful if she does not possess the third.

Mr. Stuart questioned the policy of allowing teachers to visit schools at random, claiming that many of the schools were hurtful to a visiting teacher.

were hurtful to a visiting teacher.

Boston, Mass.—The New England Normal Council, which includes the faculties of all the normal schools in New England, held its twenty-third annual meeting at the Rice school in Boston last week. Pres, Frank F. Murdock, of North Adams, presided.

New York City.

School Appropriations for 1898.

School Appropriations for 1898.

The board of estimate and apportionment has granted all the money asked for by the central board of education for running the schools of the Greater City during the current year. This amount includes the \$300,000 required for the new salary schedule in the boroughs of Manhattan-Bronx.

The board, however, refused to allow any money for salaries of city superintendents, clerks, or employees of the central board for services rendered prior to July 1 of this year. This is because of the opinion of the corporation counsel, that these officers are not legally in office before July 1.

The board of estimate and apportionment refused, aiso, to allow any money for building new school-houses, or for continuing the work on buildings in process of completion.

The amounts granted for the running expenses of schools in each borough are as follows: Manhattan-Bronx, \$5,502,679,46; Brooklyn, \$2,648,948; Queens, \$615,845,46; Richmond, \$292,353,40. None of these figures include partial appropriations previously made for the months of February and March. The total for the year is \$11,592,962,49.

Teachers' Association Against Examinations for Promotion.

At the meeting of the New York City Teachers' Association Tuesday, Dr. William L. Ettinger, chairman of the committee on teachers' interests, reported that the borough school board is preparing a new salary schedule with promotions based on examinations. He introduced a resolution, which was adopted—that the Teachers' Association oppose any salary schedule which provides examinations for any increase in salary. The resolution was ordered sent to the borough school board and to City Supt. Maxwell.

Excursion of Teachers' Mutual Benefit Association.

The annual excursion of the Teachers' Mutual Benefit Association takes place Saturday, June 4. The steamer, "Grand Republic," has been chartered, and will leave West 22d street at 8 A. M., and East 33d street at 8:30 A. M., for Locust Grove, L. I. Dinner and refreshments will be served on the steamer and at the grove. Tickets, costing fifty cents, may be had of Joseph S. Wade, P. S. 23, John P. Conroy, P. S. 39, and A. B. Holley, P. S. 46.

How to Get Reduced Rates to the State Teachers' Convention.

Teachers wishing to attend the meeting of the New York Teachers wishing to attend the meeting of the New York State Teachers' Association at Rochester, July 5, 6, and 7, should write or send to Abram Fischlowitz, assistant secretary, at P. S. No. 40, 225 East 23d street, New York city, for membership tickets. These tickets cost \$1.00 each, and entitle the holder to round-trip railway tickets to and from Rochester at one and one-third regular fare one way. No one can get this reduced rate without a membership ticket.

Exhibit of Students' Work.

The annual exhibit of the work of the Prang Normal Art Classes, at 3 and 5 West 18th street, New York, opened Saturday, May 7, and will remain open about three weeks.

The most interesting features of the exhibit are the pose and illustrative drawing, the historic ornament, and the elementary design. These are limited to the possibilities of the primary, grammar, and high school grades, and show the lines of work as pursued during the year.

The public are cordially invited to visit the exhibit at any time during the week. The rooms are not closed till I o'clock

P. M. on Saturdays.

The Electrical Exhibition.

An electrical exhibition is now open at Madison Square Garden. It will be a source of pleasure and education to every one who visits it. Dynamos from seventy-five horse power to the small ones used for running sewing machines are in abundance. The Moore Vacuum Tube Chapel is a delightful place to visit. In the way of lighting, it is something entirely new, and very beautiful. The exhibition will continue during the month of May, and promises to be a great success. It cannot but attract the attention of the teachers and pupils.

Arbor Day in New York.

Arbor day was observed in all the public schools of New York city. The programs included patriotic exercises and demonstrations. There was no general program, each school planning its own exercises. Scriptural passages were read in opening, followed by the Arbor day law and Supt. Skinner's letter. Down town, in the twenty-third and twenty-fourth wards, where tree space is a thing unknown, the pupils sowed tree seed and planted tiny saplings in tubs of earth. "The Star-Spangled Banner" closed the exercises.

Requirements for High School and School Teachers.

City Supt. Maxwell recommends the following minimum requirements for teachers' licenses in Greater New York:

For principal of high school: (a) Graduation from a college or university recognized by the University of the State of New York: (b) not less than ten years' experience in teaching, at least five years of which shall have been in secondary schools; or, as a school superintendent in New York city.

For first assistant teacher in high school, one of the following: (a) Graduation from college or university, recognized by University of New York, not less than five years' experience as college teacher, or teacher in secondary school; or (b) ten years' experience in teaching, at least five of which must have been in a college or secondary school.

For assistant teacher in high school one of the following:

must have been in a college or secondary school.

For assistant teacher in high school, one of the following:
(a) Graduation from college or university, and not less than two years' teaching in college or secondary school; or (b) graduation from college or university, and two years' post-graduate work in special subject, and in science of education; (c) eight years' experience in supervision or teaching, at least two in high school work, or in the highest grade in an elementary school mentary school.

For supervisor or director of special branch as music, drawing, kindergarten, physical training, etc.: Graduation from high school or institution of special rank; graduation from course of professional training of one year in special branch; three years' successful teaching of special branch.

For teacher's license of special branch: Graduation from high school or institution of equal rank; graduation from course of professional training of one year in special course; passing an examination in special branch. In case of teachers of languages, three years' experience in teaching may be equivalent to one year of professional training.

equivalent to one year of professional training.

For a kindergarten license: Examination in theory and practice of kindergarten, and one of the following: (a) Graduation from high school or equivalent academic training, and graduation from school for professional training of teachers having a course of two years, one of which is devoted to kindergarten; (b) graduation from state normal school or college having a kindergarten course of two years; or (c) graduation from a school for the training of kindergartens having course of one year, with two years' successful teaching in kindergarten, with examination in academic studies.

For principal of evening or vacation, school: Holding

For principal of evening or vacation school: Holding achers' license No. 2 in elementary schools, five years' successful teaching.

For teacher in evening or vacation school: Holding teachers' license No. 1 in elementary schools; special teachers must hold special licenses.

Two New Superintendents.

Brooklyn is to have two more associate superintendents, the appointments to be made June 7. A majority of the board are in favor of giving one of the places to a woman. The salary of the associate superintendents is \$4,500 a year. So far, the candidates among the men are: Frank D. Stevens, of P. S. No. 108; William A. Campbell, of No. 44; W. B. Shallan, of No. 191; L. H. White, of No. 3; Frank J. Perkins, of No. 26, and Joseph P. Witherbee, of No. 100. Among the women are: Miss Evangeline C. Whitney, of No. 82; Miss Julia A. Jones, of No. 3; Miss Grace C. Strachan, of No. 42. Miss Whitney is likely to be the choice among the women.

Still, it is quite possible that Miss Strachan may be elected. Still, it is quite possible that Miss Strachan may be elected. Miss Strachan is a graduate of the Buffalo state normal school, where she also taught for some time. For several years she was instructor in the Buffalo Central high school. In 1893, she was appointed teacher of the graduating class of public school No. 11, Brooklyn. The following year she took charge of the department of mathematics for the training school for teachers. She is at present principal of public school No. 42, which has a department for the training of teachers.

Miss Strachan has always been a devoted student of peda-

has a department for the training of teachers.

Miss Strachan has always been a devoted student of pedagogy. In recent years, her interest has been given principally to the training of teachers and problems connected therewith. In this work she has demonstrated her peculiar fitness for supervision and instruction of teachers. She is a woman of considerable force of character, and possesses sympathy and tact—all qualities desirable in the position for which she is a candi-

A City Training School of Teachers.

At the meeting of the Manhattan-Bronx school board Wednesday, the special committee appointed to consider the question of establishing a teachers' training school in this city reported it had consulted with State Supt. Skinner, City Supt. Maxwell, Borough Supt. Jasper, Pres. Seth Low, of Columbia university, and Prof. Russell, of the Teachers' college; that the Teachers' college will adopt a course of study for the purpose, satisfactory to the state and city superintendents, and will provide class-rooms for from 300 to 400 pupil teachers; that admission of candidates to the course may be under the supervision of City Supt. Maxwell, who may also supervise the methods of instruction and examinations.

The course prescribed for such a school will be covered by 450 hours of instruction. City Supt. Maxwell suggests the following division of time between the various subjects covered by the course, as indicative of their relative value:

Phychology and principles of education, including child study, 90 hours; history of education, 30 hours; school management, 20 hours; methods in mathematics, 40 hours; methods in nature study (plants, animals, and minerals), physiology, and hygiene, 40 hours; reading, spelling, and phonics, 40 hours; language, composition, and grammar, 40 hours; geography, 30 hours; form study and drawing, 40 hours; history, civics, and school law, 30 hours; physical culture and methods, 40 hours; methods in music, 20 hours.

Supt. Maxwell also suggests sewing and woodwork as a part of the course, and adds that at least fifty hours should be spent by each would-be teacher in practice teaching.

The board voted to admit pupils from the grammar schools of the city to the high schools this fall on the certificates of principals. Pupils from private schools must pass examinations in arithmetic, geography, United States history, reading, writing, spelling, English grammar, and composition.

It was voted to ask the police department to aid in suppressing truancy.

A resolution introduced by Mr. Burlingham, requesting the

ing truancy.

A resolution introduced by Mr. Burlingham, requesting the borough superintendent to report each month what schools are visited by each of the associate superintendents, and the results of their inspection and examination, and the views of each superintendent on the government, management, discipline, and conduct of the schools visited was adopted.

New York Suburban Educational Council.

Owing to the intense interest manifested at the last meeting

Owing to the intense interest manifested at the last meeting of the council, it was decided to hold an adjourned meeting May 21, at 11 A. M., in Room 1. New York university.

Each member is requested to be present and prepared to report his experience on one or more of the following topics: "Yard and Street Deportment"; "Co-operation of Pupils"; "Promotions"; "Opening Exercises"; "Entertainments"; "Report System"; "Exhibits"; "Care of School Property"; "Spelling"; "Reading"; "Writing"; "Arithmetic"; "Manual Training"; "Patriotism"; "Current Events." etc.

James M. Grimes, Secretary.

D. A. Preston, President.

Manual Training Exhibit.

On May 21, the fifth and last session of the grammar teachers' Saturday class will be held at P. S. 77, 400 E. 86th St. Some of the work in drawing, modeling, brushwork, etc., executed by members of the class will be on exhibition from 11 to 12 M. You are very cordially invited to be present at that time.

Brief Notes.

The following officers of the New York City Teachers' Association were elected recently: President, Dr. William P. Ettinger; vice-president, Mary A. Magovern; secretary, Henrietta Woodman; treasurer, Sarah F. Buckalew; librarian, Ellen F. Holley. The vote for president and secretary was: For president, William L. Ettinger, 1389; Dr. John P. Conroy, 1001; vice-president, Mary A. Magovern, 1275; Mary E. Tate,

The following named were elected trustees for three years: Joseph H. Wade, Julia A. Birdseye, Josephine E. Rogers, Thomas J. Boyle, Magnus Gross. For trustee, for one year, to fill a vacancy, James M. Kieren received a majority of the votes cast, but his election has been objected to on technical grounds, and referred to a committee to decide upon it.

Secretary Brown, of the Brooklyn board of education, in reply to the mayor's request for data concerning unfinished schools, says that only two schools in that borough are uncompleted, and these will be finished before Aug. 1. It will cost \$199,403 to finish them, and the board has \$211,657 for the

Philadelphia Horse Show at Wissahickon Heights.

Special Excursion Tickets via Pennsylvania Railroad,

Special Excursion Tickets via Pennsylvania Railroad,
The seventh annual open-air exhibition of the Philadelphia Horse
Show will be held on St. Martin's Green, Wissahickon Heights Station, Philadelphia, May 24, 25, 26, 27, and 28.
The announcement of an exhibition under the auspices of this
organization, which is composed of leading citizens of Philadelphia,
is in itself an assurance of perfection. The prize list is liberal,
and representatives of the best society of Philadelphia, New York,
Baltimore, Washington, and other Eastern cities will enter their
horses and aquipages in the competition for the premiums.
The grounds which are located immediately on the Germantown and Chestnut Hill Branch of the Pennsylvania Railroad, eleven
miles from Broad Street Station, are ample for all purposes of the
show, and the accommodations for visitors are complete.
The Pennsylvania Railroad Company will sell special excursion
tickets, including coupon of admission, from New York, Philadelphia, Lancaster, Wilmington, West Chester, Phænixville, and
principal intermediate stations (as well as the Chestnut Hill
Branch) to Wissahickon Heights Station, May 23 to 28, good to return until May 30, 1898, inclusive.

Items of Live Interest.

At a meeting of the Normal School Principals' Council held at Syracuse on the 12th instant, the following regulation was adopted concerning the promotion of pupils in the normal schools from the intermediate departments of the practice school to the normal departments:

"The faculty of each school shall determine by suitable examination and tests the professional intentions, the qualifications in scholarship and general fitness of each candidate for admission to the normal department from the practice school. The examinations to determine scholarship shall cover the following subjects: Arithmetic, grammar, geography, American history, physiology, composition, civics, reading, penmanship, spelling, drawing, and vocal music, and a standing of eighty per cent. in each subject must be attained."

The plan adopted by the normal principals received the approval of the state superintendent.

Newport, Oregon.—The Summer State Teachers' Association, for the benefit of the teachers in the Willamette valley, will be held in Newport, July 27 to 29. Newport is delightfully situated on the seacoast, and as the law provides for attendance, a large number is expected. The Summer Educational Association will also hold its four weeks' session here, beginning Aug. 1 beginning Aug. 1.

The Eastern Summer School of the American Institute of The Eastern Summer School of the American Institute of Normal Methods will hold its eighth annual session of three weeks at Lasell seminary, Auburndale, Mass., July 12 to 28, inclusive. The departments include vocal music, drawing, permanship, pianoforte, and physical training. The latter department is under the supervision of Miss Ellen Le Garde, supervisor of physical training in the Providence schools, assisted by Miss Lilian M. S. Bacon, instructor in Mount Royal school Montreal school, Montreal

A nature study leaflet, Biology Series No. 1 on the "Common Toad" has been received from Clark university, Worcester, Mass. The leaflet contains the results of a careful study of the life history and work of the toad, made by C. F. Hodge, Ph.D., assistant professor of physiology in the university. A complete list of genera and species is given as an easy method of identification. The general topics treated are the eggs, egg laying, and tadpoles; the life and work of the adult toad, and the objections to the study of th toad. Copies may be obtained at the rate of five cents each or two dollars per hundred by addressing Oliver B. Wood, 50 Foster street, Worcester, Mass.

Central Falls, R. I.—Supt. Frank O. Draper will leave this place in September to accept the position of superintendent at Hyde Park, Mass. Mr. Draper has been very successful here, and his recent offer comes as a deserved promotion.

It is rumored that the headquarters of Silver, Burdett & Co. It is rumored that the headquarters of Silver, Burdett & Co. are to be transferred from Boston to New York. This may have no foundation, except from the fact that the president, Mr. Edgar E. Silver, has removed to New York. It is a matter of surprise among educational people that in so short a time this firm has taken a position among the leading school book publishers. This has been accomplished by hard and persistent work. The fine list of books published by them reveals the reason they have taken such a forward position, and their large, convenient offices in Boston, New York, and Chicago indicate their progressive spirit.

Philadelphia, Pa.—Henry W. Halliwell, who has been for many years secretary of the board of education, was found dead in his office on the morning of May 11. He was a sufferer from heart failure, and it was this that caused his death. He was a valuable member of the board, and had done fine service in the cause of education. Mr. Halliwell leaves a widow and one daughter. and one daughter.

Galveston, Tex.—The nineteenth annual meeting of the Texas State Teachers' Association and the Superintendents' and Principals' Association will be held in Galveston, June 28 to July 1. It is hoped that over 3,000 educators will be present at the meetings. Reduced rates will be given on the railroads and at the hotels.

Mr. George Holliday, who represents the American Book Company at Pittsburg, has recently been appointed postmaster of that city. He-began his business with Harper & Brothers. In 1880, he connected himself with Ivison, Blakeman & Co., remaining with them till the organization of the American Book Company.

The new private Canadian postal card is now being distrib-uted. The design shows the Stars and Stripes and the Union Jack between them. "One aim, one goal," is the inscription over the clasped hands. Columbia and Brittania sit in peace side by side—"Gloria Mundi," the glory of the world, being the underline.

Letters.

Information for Prof. Liddell.

In an article by Prof. Liddell, quoted in a recent number of *The School Journal*, I find the following statements:

"There is no American society or association in existence whose sole object is the dissemination of scientific knowledge of whose sole object is the dissemilation of scientific knowledge of the history and structure of the language by which all such concerted action is rendered possible and effective. Nor are we better off in respect to special journals. Germany has two excellent ones, devoted solely to the scientific study of English; America and England have none."

America and England have none."

This statement, while literally true, is misleading. There are societies which devote much attention to the study of the history and structure of our language. The Modern Language Association of America has been devoting much time to English and can do the work referred to better than if it restricted itself to English without paying due attention to the broader field of Germanics. The success of the Modern Language Association has led to the formation of a central division of the Modern Language Association which held its third annual meeting at Chicago some time ago.

some time ago.

In regard to journals it need only be said that the "Modern Language Notes" has done yeoman service in this line for a number of years. In addition we have now the "Journal of Germanic Philology" edited by Prof. Karsten, of Indiana university. This journal has, I am glad to say, not limited itself to English, although fully one-half of the articles which appear in it bear directly on the study of that language. The department of English is under the direction of Prof. Albert Cook, of Yale, and the quality of the articles produced proves clearly that this journal supplies the want which Prof. Liddell deplores.

Indianapolis.

Paul H. Grummann.

The Longest Bridges.

The length in feet of the most noted long bridges in the world is as follows: Tay, Great Britain (longest in the world), 9,696; Forth, Great Britain, 5,552; Moerdyck, Holland, 4,820: Volga, Russia, 4,715; Weichsel, Germany, 4,346; Thoen, Germany, 4,172; Grandenz (Elbe), Germany, 3,580; Brooklyn, United States, 1,601.

How Guncotton is Made.

The process of making guncotton is very simple. Raw cotton or ordinary cotton waste is steeped in a solution of one part of nitric acid and three parts of sulphuric acid. The niton or ordinary cotton waste is steeped in a solution of one part of nitric acid and three parts of sulphuric acid. The nitric acid renders the cotton explosive, the presence of the sulphuric being required only to absorb the water, thus allowing the other acid to combine more readily with the cotton. After the cotton has soaked in the acids for several hours, it is squeezed through heavy rollers, to extract all the superfluous acid. It is washed carefully and thoroughly, with the object of removing the free acid. To make the guncotton still more pure, it is passed through a machine similar to that which grinds the rags in a paper mill. Here it is crushed thoroughly, and afterward washed until the last trace of free acid disappears, and the cotton comes out in the form of a soft, white pulp, closely resembling paper pulp.

If it is to be used in making powder, it is dried and stowed away in pulverized form; but if it is designed for filling torpedoes, it must be compressed and molded into shapes which will enable it to be packed into the torpedo heads. These are sometimes disks, and sometimes cylinders, flat squares, or cubes. If uncompressed and dry, the guncotton would be extremely light, weighing no more than ordinary cotton-batting; but when compressed, it is about the density of water. A brick of wet guncotton may be placed upon hot coals. As the moisture dries from the outside, the cotton flakes off and burns up quietly. Perfectly dry guncotton, when confined in a strong case, will explode with great violence if exposed to a temperature of about 320 degrees Fahrenheit.

Thirty years ago, the application of heat was always used to bring about an explosion. It has now been discovered that detonation produces a more powerful effect than explosion by

the wet cotton. This instantly explodes, and with it the wet course wet cotton.

Is the British empire on the decline? A writer in "The Contemporary Review" asserts that it is, and cites as proof that the agriculturists are being destroyed by the importation of grain, socialism is increasing, and the armies instead of being recruited from the bone and sinew of their own people, are largely made up of Negroes, Egyptians, Soudanese, and the Indian races of Asia. We, however, no not agree with him.



High School Buildiug, Peru, Ind. (Alfred Grindle, Architect.)

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new Books.

An interesting and thoughtful essay is "Tennyson's Debt to Environment," by Prof. William G. Ward, of Syracuse university. It is a reverent study of the man, and the influences which shaped his life, and were reflected in his poems. Living in the isolated country of Lincolnshire, among the hills and rivulets, with scarcely ever a taste of urban life, it was inevitable that Tennyson should absorb the love for that real and the same and expressible to nature of which he was a part. Acquire

ble that Tennyson should absorb the love for that real and true and sympathetic nature of which he was a part. Acquiring this companionship in his early years, the influence of it remained with him through his life. It was always a delight to leave the city to revel in the scenes of country life, and draw fresh inspiration from nature.

Another potent factor in Tennyson's environment, says Professor Ward, was his friendship for Arthur Hallam, and the new romantic life to which Hallam introduced him. This was worked out to its expression in the Arthurian poems. The discipline of sorrow had much to do with the formation of Tennyson's character. The crushing blow in the death of his dearly-loved Hallam, and then the loss of all his possessions, sent his spirit into the depths of gloom for ten long years. Here was fought the battle of the soul—the battle of despair against life, hope, and immortality. With the triumph of love and life came that supreme monument to the dead and inspiration to the bereaved, "In Memoriam."

Success came swiftly after 1850. The poet married and pros-

supreme monument to the dead and inspiration to the bereaved, "In Memoriam."

Success came swiftly aiter 1850. The poet married and prospered, became famous, was honored with the laureateship, and settled down to the peace and quiet of the remainder of his life. He took a new interest, from his position, in the affairs of state. He saw the weak places in government, and urged reform, which for his day was radical. "The Princess" sounds the first note of equal education for the sexes. "Maud," "Locksley Hall," and "Aylmer's Field," are strong pleas for democracy, while the "Idylls of the King" glorifies loyalty to the home and the lofty virtues which make the ideal home. Prof. Ward devotes the second part of the book to a study of the minor poems in connection with the various chapters of the first part, and studies in detail "In Memoriam" and the "Idylls of the King." The book is intended to serve as an introduction to the study of Tennyson, and one who reads it will surely approach the poems in an attitude of reverence and sympathetic appreciation. (Boston, Roberts Bros. Small 16mo., 100 pages; cloth.)

An address by Mrs. Humphry Ward, entitled "New Forms of Christian Education," makes a duodecimo volume of thirty-nine pages. She thinks that "we are on the eve of a new Christianity," but she believes that "the faith of nineteen centuries has been no mere delusion," that "the history of these centuries themselves, of the part played therein, and the transformations suffered by that force which we call 'the life of Christ,' will enter into the new symbolum fidei whenever it appears." She considers this the greatest epoch in the history of Christianity since the coming of Christ himself, and with simplicity and modesty, yet with eloquence, she pictures the changing conditions of the day. (T. Y. Crowell & Co., New York and Boston. 35 cents.) An address by Mrs. Humphry Ward, entitled "New Forms

Those who read "Penelope's English Experiences Those who read "Penelope's English Experiences" will be glad to follow that vivacious young lady further. Mrs. Kate Douglas Wiggin's new novel, "Penelope's Progress," describes a tour in Scotland made by the three friends, Penelope, Salemina, and Francisca. Mrs. Wiggin thoroughly understands the "canny Scot," and the description of Scottish life, in Edinburgh and the country, as the three American girls saw it, is most entertaining. Aside from being an excellent story, the book is valuable for its description of historic, picturesque, and curious places. It is attractively bound in Scotch plaid, which was made especially for that purpose in Glasgow. (Houghton, Mifflin & Co., Boston. \$1.25.)

The purpose of the volume on "Half Hours with the Christ," by Thomas Moses, is not to take us back across years The purpose of the volume on "Half Hours with the Christ," by Thomas Moses, is not to take us back 2,000 years. but to bring the Christ into our own time. A bright, cultured young woman, left a widow with two interesting children, becomes the leader of a study circle, in which the life of Christ and its application to the work of to-day is the theme. She makes the study very fascinating by the aid of maps, illustrations, and readings; the reader also becomes deeply interested in the persons who constitute the study circle. (American Baptist Publication Society, Philadelphia. \$1.00.)

Roger Williams was the first to preach and practice real re-Roger Williams was the first to preach and practice real religious liberty on the American continent, and therefore his name ought to be revered by all Americans. The story, "In the Days of Massasoit," by Hezekiah Butterworth, centers around the exploits of that hardy pioneer. It blends history and fiction in a delightful way, and the young, in particular, will find it an especially enjoyable book. (American Baptist Publication Society, Philadelphia. \$1.25.) Life in the Danish peninsula is reflected in "Among the Dunes," a story by Mrs. D. L. Rhone. In a very graphic way she presents to us the fishing village, with its quaint houses and people, and the sea roaring at its side. The plot centers about a handsome gypsy woman who marries a nobleman's son, and whose infant boy is supposed to be lost at sea. He turns up long years afterward, and succeeds in wresting his inheritance from a man who has obtained possession of it by unfair means. A young blacksmith, or armorer, who figures prominently in the story, is the principal agent in the exposure of the villainies of the usurper of the title to the property. Odd and amusing characters and scenes are described, and add considerably to the interest of the story. (F. Tennyson Neely, New York. \$1.25.)

The systematic study of the plays of Shakespeare is as profitable a one as the student of literature can engage in, and it is gratifying to know that it is becoming more and more common. The book on "How to Study Shakespeare," by William H. Fleming, will prove a great help to the earnest student. In this, are considered the ballads, plays, etc., which furnished the material for Shakespeare's plays; then there are given explanatory notes, the acts and scenes in which each character appears, for the use of reading clubs, questions to direct the attention to every important subject suggested in the play, lists of books to study, etc. The plays selected for study are "Othello," "Twelfth Night," "Julius Cæsar," "The Merchant of Venice," "Macbeth," "A Midsummer Night's Dream," "King Richard the Third," and "The Tempest." The introduction is by Prof. W. J. Rolfe, the great Shakespearean scholar. (Doubleday & McClure Co., New York. \$1.00.)

Every man who reads the able, earnest, honest speeches of Abraham Lincoln, made before the civil war and during that conflict, cannot fail to have his patriotism stimulated. They show him to have been one of the most wonderful orators of the century. Many of these speeches are collected in a volume of the "Little Masterpieces" series edited by Bliss Perry. The book has a frontispiece portrait of Lincoln. (Doubleday & McClure Co., New York. 30 cents.)

Whatever was the origin of the stories and jingles that are credited to Mother Goose, whether folk-lore, or from the pen of ancient dame, or written by famous authors during their lighter moods, there is no question about their fascination for children. moods, there is no question about their fascination for children. They are continually appearing in new shapes and new editions; the interest in them among the young is perennial. These ancient tales and jingles are present in a particularly attractive shape in the book called "Mother Goose in Prose." The author, L. Frank Baum, has told these well-worn tales with the detail and fanciful touches that so please the children. Maxfield Parrish has allowed his fancy free play in drawing the pictures. They will be a surprise and delight to the little ones. (Way & Williams, Chicago. \$2.00. Chicago. \$2.00.)

It is remarkable how many men, beginning a few years ago, set themselves to solve the intricate questions that arise when men are joined in communities. Edward Bellamy's novel, "Looking Backward," was taken in sober earnestness by a large number, strange as this statement may seem. While riding in a car in Florida, a very intelligent looking man was noticed, who evidently had but a few months, at the most, to live, being afflicted by consumption. In the brief conversation that arose, he remarked: "But you must admit that when one man has \$1,000 and another only \$1, that the reason the latter has no more is, that the former has got possession of it." About to depart from the world, he was still clinging to an opinion he had formed, and supposed to be soundly to an opinion he had formed, and supposed to be soundly

There are no small number of men that feel able to solve the problems of finance and transportation. Among them is Mr. J. D. Miller, of Chicago. This gentleman has published a small treatise, in which he proposes that the government shall own the railroads, telegraph lines, and issue currency. He thinks this country is becoming a republic of millionaires and tramps, and that because the former exist, the latter must; but why so? The tramp existed first, long before the millionaire. A good part of this little book is devoted to cursing the millionaire. This is the serious defect with such men as J. D. Miller, H. S. Pringree, and many others. This country is in its youth, and great opportunities are afforded to accumulate wealth. Gov. Pringree is after wealth, and will, if he has not started too late, become a millionaire. W. L. Douglass, the shoe manufacturer, was a barber but a few years ago; he aims at being a millionaire. Mr. Miller is a lawver, and can hardly be one, but he would like to have bonds with coupons to clip off, and don't you forget it!

The World's Parliament of Religions at the Columbian Ex-The World's Parliament of Religions at the Columbian Exposition brought together a number of very remarkable men; for once, the various sects of Christians were willing to hear what the others had to say; the various other religions besides the Christian had the privilege of telling their beliefs. The president of this Parliament, John Henry Barrows, D. D., was a man of broad mind. A year after the parliament had closed a well-known lady, Mrs. Caroline E. Haskell gave \$20,000 to found the "Barrows Professorship of Comparative Religions in the Chicago university to which he was appointed. The idea was that cogent arguments for Christianity might be produced from exhibiting and contrasting other religions with it. The lectures were to be delivered in Calcutta, Bombay, or other eastern Asian cities. In accordance with this idea Prof. Barrows' seven lectures were delivered in India in various cities in 1896 and 1897. The titles of these lectures are "The World-Wide Aspects of Christianity," "The World Wide Effects." "Christian Theism the Basis of an Universal Religion," "The Universal Book," "The Universal Savior," "The Historic Claims of Christianity." As all of these lectures will be interesting to general readers they have been published in a book, "Christianity the World-Religion." No one but will heartily rejoice in this movement to unity religious thought the world over. (A. C. McClurg & Co., Chicago, Price, \$1.50.)

There can scarcely be too many histories of the United States, if they are all written as clearly, as accurately, and with so thorough a patriotic spirit as the "History of Our Country," by Edward S. Ellis, A.M. It is a graphic and complete record of every event of note, from the earliest visits of the Norsemen to the present time. The youth of America can hardly be impressed too strongly with the fact that their country is the home of the loftiest civilization, and of the highest development of art, literature, science, invention, education, and true progress, and offers unlimited possibilities that are unknown elsewhere. These lessons are conveyed, in a pleasant manner, to the mind of the reader, and, whether as a book of instruction for the pupil or private reading at home, will prove of value to all. Mr. Ellis not only relates the events, but emphasizes their causes and significance. A feature worthy of note consists of biographical notes at the ends of the chapters, relating to prominent people. The illustrations include portraits of nearly all the men who have been prominent in our history, besides pictures of battles, buildings, etc.; these fine half-tones, together with the excellent type and binding, make this one of the handsomest of recent histories. (Lee & Shepard, Boston. \$1.00.)

Without fear of contradiction, we can say that, considering the number of fields in which he excelled, Benjamin Franklin possessed the greatest intellect of any man ever born in America. He explored the depths of philosophy, he was the pioneer journalist, he was a great inventor, he was a successful man of business, he was a noted diplomat, he won world-wide fame as a scientist, he helped make the constitution, and as a writer his pregnant sentences contain the very life of every-day wisdom. It is therefore desirable that Americans should become familiar with his history and his works. Hence our readers will be gratified to learn that selections from his writings have been edited for the series of "Little Masterpieces," by Bliss Perry. The volume contains the very cream of "Poor Richard," the "Autobiography." and other works. It is small enough to be carried in the side pocket; it has flexible cloth covers, gilt top, and rough edges. (Doubleday & McClure Co., New York. 30 cents.)

The knowledge of early man that science has been so industriously gathering during the past few decades is embodied by Stanley Waterloo in "The Story of Ab." Of course the story reaches far back of the limits of authentic history, but by putting together the facts that the caves and the rocks and the fossils have revealed, he has constructed a narrative that is full of action and life. We follow with absorbing interest the careers of the creatures of imagination—Ab, the young warrior; Oak, his companion; Old Mok; the cave women, and others—that he has created. The book gives a vivid and very plausible picture, of the home life, the occupations, the mode of war, etc.. of our ancestors when they were groping forward with uncertain steps for more light. (Way & Williams, Chicago. \$1.50.)

"Words of Lincoln," is a rich collection of gems direct from the lips of Lincoln, published for the purpose of preserving to the American people the house in which Lincoln died, as a memorial and shrine for patriotic visitors to the national capital. It has been carefully compiled by Capt. O. H. Oldroyd, of Washington, who after more than thirty years of study of the life of the martyred president, gives in the preface a remarkably clear and concise biographical sketch of the great patriot and statesman. There is also an eloquent introduction and endorsement by Chief Justice Fuller, of the United States supreme court. It consists of beautiful extracts for over two hundred different orations, speeches, debates, letters, etc., chronologically arranged, dating from 1832 to 1865, making practically a life of Lincoln in his own words, together with over 300 beautiful tributes by eminent men giving their opinion of his life and character. (Published by the Lincoln Memorial Association, Washington, D. C., and 93 Fifth avenue, New York.

If health is the best possession we have, why is it that more people do not make more effort to grain and retain it? We believe they would if they knew what a few simple gymnastics would do for them. The book on "Rational Home Gymnastics," that has recently been published, will be a boon to many persons. It was written by Hartvig Nissen who has had twenty years'

experience in teaching gymnastics to the well, and in applying massage and medical gymnastics to the sick. He gives descriptions and illustrations of different movements and shows what each will accomplish in the development of muscle and the cure of disease, and also describes the beneficial effects of walking and bicycling and the use of water and massage. (Richard G. Badger & Co., Boston. \$1.00.)

Children delight in games that ape the occupations of later years. It was with this fact steadily kept in mind that Lois Bates collected and arranged the material in her book of "Games without Music for Children." These are divided into games for the school-room, games for the playground, and guessing rhymes. The games are selected for their educational character, and some of them the children will undoubtedly find so engaging that they will play them in their homes. (Longmans, Green & Co., New York. 60 cents.)



Wax-wing. From "Birds of Village and Field." Houghton, Mifflin & Co., publishers.

In accord with these stirring times when 500 millions is cheerfully voted to set Cuba free from her long enslavement to Spain one of a Series of American Character Studies entitled "The Patriot" appears devoted to that sterling patriot Samual Adams. It is one of a monthly series issued at fifteen cents or \$1.50 per year; the editor of this number is Bishop Samuel Fallows; with the sketch he gives are numerous characteristic anecdotes; it has a number of appropriate engravings, for instance, the Old South Church, Boston. It is in reality a history of the times when Samuel Adams lived, with him as the central figure; the years 1770–1800 were the eventful years of the American nation. This series promises well and cannot but be deservedly popular. It will have a great sale. (University Association, New York.)

That we have orators among us is well evidenced by a volume entitled "The New Century Speaker" by Prof. H. A. Frink, of Amherst college. There are plenty of speakers with extracts from the speeches of Beecher. Webster, Clay, Pitt, &c.. but this contains adaptations from Victor Hugo, F. W. Farrar, F. W. Robertson, Herrick Johnson, Chauncey M. Depew, Charles H. Parkhurst, H. W. Grady, J. G. Blaine, Geo. William Curtis, and many others who are unknown to the usual compiler. The author has evidently "watched out" for eloquent passages in sermons as well as speeches, The selections are adapted for use by students in high schools as well as colleges. It is a book that will at once be a favorite. (Ginn & Co., New York.)

THE SCHOOL JOURNAL

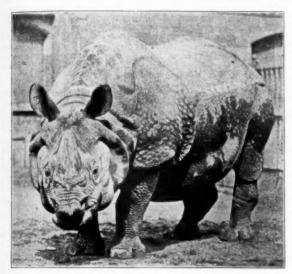
(Established 1870.) published weekly at \$2.50 per year, is a journal of education for school boards, superintendents, principals, and all teachers who desire to have a complete account of all the great movements in education. We publish The Trachess' Instrture, monthly, \$1 per year; The Primary School, monthly, \$1 per year; Educational Foundations, monthly, \$1 per year, and Our Times (Current Events), monthly, 30 cents per year.

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"Pope's Translation of Homer's Iliad has always been a popular one. A handsome edition has just appeared edited by William Tappan with introduction and notes; these latter are exceedingly well prepared; indeed, no edition of this translation could have much value without such notes. The introduction discusses numerous questions relative to the poet, the translator, other translations, mythology, etc. It is now, in the present shape, of special value to students in high schools and the general reader. '(Ginn & Co., New York.)

The absorbing story of "Odysseus," as used as a reader in the schools of Greece has been translated, simplified, and adapted by Mary E. Burt and Zenaide A. Ragozin for the use of English-speaking children. The story is believed to be peculiarly suited to the mental needs of children. The volume has been divided into three parts, the first of which gives a short résumé of the war against Troy, and the destruction of that city; the second, the wanderings of Odysseus till his arrival in Ithaca, and the third, his arrival and the killing of the wooers. The book has a number of expellent illustrations. (Charles Scribner's Sons, New York. 60 cents.)

The handsome, cloth-bound volumes of the Students' English Classics series, by reason of their handy size, notes, and critical introductions, have become very popular. One of these volumes contains "The Prisoner of Chillon," and other selections from Lord Byron, edited by Charles Maurice Stebbins, of the Salt Lake City high school. In addition to the leading poem, there are several of the purest and simplest of Byron's narrative poems. Another volume of the series contains "The Essays of Elia," by Charles Lamb, edited by Caroline Ladd Crew, B.A. The book contains some of the best of the products of that incomparable humorist. (Leach, Shewell & Sanborn, Boston, New York, and Chicago.)

Among the series of volumes of High School Readings in English is "The Princess," by Alfred Tennyson, edited with notes and suggestions for academies and schools, by H. T. Nightingale. This volume contains a short sketch of the Life of Lord Tennyson, also an introduction and a list of the works of Tennyson and dates of publication. The notes are only such as are necessary to explain the text, and while the book has been carefully prepared an especial effort has been made to make a satisfactory and convenient pamphlet at small cost. (Ainsworth & Co., Chicago. 15 cents.)

The Pocket Literal Translations of the Classics is a series of volumes of handy size, by which the student may easily become acquainted with the best works from other languages. Already the series includes many works from Greek, Latin, and German. Two of the latest volumes are Schiller's "Mary Stuart," with an introduction by Edward Brooks, Jr., and Goethe's "Faust," translated by Anna Swanwick, with an introduction by Edward Brooks, Jr. (David McKay, Philadelphia. 50 cents each.)

In "Greek Prose Composition" Henry C. Pearson has sought to combine a thorough and systematic study of the essentials of Greek syntax, with abundant practice in translating and in composition. The first part of the book consists of graded lessons in Greek syntax, designed for use in the second year's study of Greek, thereby serving as a review of the first year's work, and as an introduction to composition work in connection with the reading of Xenophon's "Anabasis." The method used in this book of translating written Greek at sight is the outgrowth of the author's personal experience in the class-room. The clear arrangement of the lessons, open pages, and full-faced Greek type, will undoubtedly find favor in the eyes of both teacher and student. (American Book Company, New York. 12mo., 187 pages; 90 cents.)

"Minna von Barnhelm." Lessing's five-act comedy, has been edited for the use of schools by M. B. Lambert, instructor in German in the boys' high school of Brooklyn. The play is full of dramatic interest, and is marked by its purity of thought and expression, and its directness and terseness of style. It is the typical comedy of German literature, and hence worthy of careful study. (American Book Company, New York. 50 cents.)

Book I of "Cæsar's Gallic War" is issued in the School Classics series in convenient form for the use of students; it is edited with notes and vocabulary by Arthur W. Roberts, Ph.D., senior classical master of the William Penn Charter school, Philadelphia. The editor believes, and others will agree with him, that it is a great advantage to have a small volume to handle, a definite and limited vocabulary, and full notes. (Ginn & Co., Boston.)

Prof. C. Fontaine, director of French and Spanish instruction n the high schools of Washington, D. C., in "Douze Contes Nouveaux" has included twelve stories which he has carefully se-

lected, from a wide range of contemporary French literature in order to illustrate its strength and beauty, and to turnish choice material for reading that will be attractive to students and useful to instructors. The authors represented are among the most famous of the present time: Theuriet, Blache, Halevy, Veron, France, Cheneviere Ariene, Coppee, Rameau, and Chotel. The notes and vocabulary are sufficiently full to afford all the assistance necessary to make the reading both easy and interesting to students. (American Book Company, New York. 45 cents.)

"A Brief Italian Grammar" has been prepared by Prof. Hjalmar Edgren, of the University of Nebraska, on a somewhat similar plan to his Spanish grammar. The intention is to introduce the learner to such essentials of the language as are indispensable for critical and intelligent reading. Especial pains have been taken to treat the subject of verbs in such a way that they may be readily mastered. The exercises are simple, and closely confined to the topic in hand. The more common peculiarities of Italian construction are considered, and a brief exposé of Italian versification is added. (William R. Jenkins, New York. 90 cents.)

R. Jenkins, New York. 90 cents.)

The thousand and one rules of German grammar, with their multitudinous exceptions, have always been a bugbear to students. They have been scattered through the text-books in such a manner that it was almost impossible to find any one without much hunting. This difficulty is largely done away with by the "Tables of German Grammar," by A. A. Fischer, master of German at the Episcopal academy, Philadelphia. The book is designed, not as a grammar, but as an aid to students in the study of German. It takes up the different parts of speech, and arranges their inflection, with the rules governing their use, in tabular form. Two-thirds of the book is devoted to the verb. Comparative tables of conjugation are given, and separate chapters are devoted to the different kinds of verbs. The strong verbs are treated as the great storehouse of German derivatives. Many of the derivatives of each verb are given in connection with it, thus making it possible for the careful student to learn the relations in so practical a way that sight translation will become comparatively easy. The book relies for its effect largely on the tabular form, which is very striking. (Philadelphia, Ig. Kohler & Sons; New York, E. Steiger & Company; paper, 50 cents; cloth, 65 cents.)

The student of physical science needs problems to which he can apply the principles he has learned in the class-room and laboratory. These will be found in the book of "Physical Problems and their Solutions." by A. Bourgougnon, formerly assistant at Bellevue Hospital Medical college. They relate to all branches of physics. (D. Van Nostrand Company, New York.)

"A Manual of Dissection and Histology" is the book that Prof. French of the Southern Illinois Normal university, has prepared to aid students in their investigations in physiology. It gives directions for the dissection of birds and other animals and also for the use of the microscope. The illustrations are numerous. The book is intended for the use of classes in high schools, normal schools, and academies. (J. B. Lippincott Co., Philadelphia.)

"Elementary Exercises and West Coast Botany," by Volney Rattan, is a book treating of the plants of the Pacific coast. It is designed to supply the needs of pupils who must work with simple appliances at ordinary school desks, and under the supervision of a teacher who can devote little time to the subject, but it is believed it will be equally useful for those possessing better facilities. In the analytical key are described over eighteen hundred species found west of the Sierra Nevada and Cascade Crests, from San Diego to Puget Sound. (The Whittaker & Ray Co., San Francisco. \$1.50.)

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THE SCHOOL: JOURNAL

[Entered at the N. Y. P. O. as second-class matter.] Published Weekly by

E. L. KELLOGG & COMPANY.

The Educational Building, 61 E. NINTH STREET, NEW YORK. 267-269 WABASH AVE., CHICAGO.

The School Journal, established in 1870, was the first weekly educational paper published in the United States During the year it published twelve school board numbers, fully illustrated, of from forty-four to sixty pages each, with cover, a summer number (eighty-eight pages) a June, a private school number in September, a Christmas number in November, and four traveling numbers in May and June. It has subscribers in every state and in nearly all foreign countries.

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The Force of a Rifle Bullet.

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The Miau-tsze, a tribe in Asia, will not bury a man until they have first tested the ground with an egg. This operation is curious. While the body is being prepared for burial, a number of Miau-tsze, including the male relatives of the deceased, go out to the appointed spot, bearing a large basket of eggs. Stooping down, one of the natives lets an egg drop softly on the ground. Its breaking is considered an ill omen, and another spot is selected. In this ground. Its breaking is considered an in omen, and another spot is selected. In this way the party often wander about for hours, dropping eggs until one strikes a place where the shell does not crack.

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The sense of hearing is developed in the modern telegraph operator to an abnormal degree, owing to his use of the typewriter in his work. In former years, when he copied his message with pen or pencil, his ears were accustomed to only one kind of sound—that of the telegraph instrument—while in these days of the typewriter he must distinguish between the sharp clicks

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of the ticker and the almost similar rattle of the copying machine. According to an old operator, the sense of hearing soon becomes so developed that the distinction is easily made. With a little experience in the use of the typewriter along with the telegraph instrument the operator ceases to notice any similarity of the sounds.—St. Louis "Post-Dispatch."

Long Sessions of Congress.

Attention has been called to the fact that the sessions of Congress in war time have not been more protracted than in time of peace. The Thirty-eighth Congress ex-tended from December, 1863, to March, 1865, during a period of grave importance in national affairs, but its two sessions exin national aftairs, but its two sessions extended over only 299 days, whereas the Fiftieth Congress, in session between 1887 and 1889—the second half of the first Cleveland administration—was in session 412 days, though no matters of urgent national importance came up for the consideration of its members. The obvious explanation of the apparent paradox is that eration of its members. The obvious ex-planation of this apparent paradox is that in times of public peril legislators act promptly, whereas, in periods of public peace they are inclined to argue and dis-cuss, without agreeing upon, questions which do not require immediate action.

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If we watch the beautiful golden marsh marigold we shall find it rarely receives a marigold we shall find it rarely receives a visit from the bumblebee. It is said that those bright golden-bodied flies of the family Syrphidæ are the chief disseminators of its pollen. However this may be, one thing is perfectly plain: the marsh marigold is a striking and showy yellow flower, which cannot escape the notice of a multitude of spring insects; it is consequently visited by bees, flies, butterflies, and beetles. Yellow is a most common color among flowers, and one which is peculiarly conspicuous and flashy in sunlight. culiarly conspicuous and flashy in sunlight, when it is varnished with a gloss like that which we see on the buttercup and the marsh marigold.—"The Chautauquan."

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"Wonder if Diaz knows?" is a common remark in discussing any foreign or do-mestic grievance, and whenever the dictator accepts an invitation to a rural beast-fight accepts an invitation to a rural beast-tight his carriage (he is getting too old to enjoy horseback rides) is followed by the acclaims of his rustic worshipers, some of whom do not hesitate to lay hold of him and cover his coat sleeve with kisses. A vicestan Indian even his each his best has Yucatan Indian even kissed his boots, be-cause the *padishah* had freed his tribe from—I forgot what burden—some sort of teudal socage duty.

For the triple-headed dragon is chained and the Mexican St. George is at leisure to turn his attention to minor evils, but, like Frederick the Great, affects to show himself ultra-liberal in matters not directly affecting the stability of his pet institutions. In an excess of that sort of tolerance he permits bull-fights and various games of chance, and, I am sorry to add, the manufacture and sale of all sorts of intoxicating liquors.

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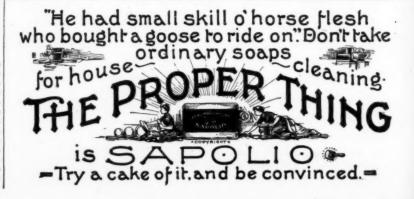
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